

PROCEEDINGS

OF THE

CALIFORNIA ACADEMY OF SCIENCES

FOURTH SERIES

VOL. XII, No. 28, pp. 561-694, text figs. 1-140 APRIL 14, 1924

XXVIII

**EXPEDITION OF THE CALIFORNIA ACADEMY
OF SCIENCES TO THE GULF OF
CALIFORNIA IN 1921***

**THE SPIDER FAUNA OF THE SHORES AND
ISLANDS OF THE GULF OF CALIFORNIA**

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Heretofore no spiders have been recorded from the islands of the Gulf of California. Consequently, it is a matter of interest to be able to present a report on a large collection secured upon these islands and the adjacent coast by the expedition of the California Academy of Sciences which operated in that region from April to July, 1921. This collection contains representatives of more than 180 species. Although obviously not exhaustive, it furnishes, in conjunction with the records of Simon¹ and Banks² for the Lower Californian peninsula, a substantial basis for a study of the spider fauna of this region which will indicate general characteristics and relationships, and will reveal the special problems to which future field work upon the group should be directed.

*A map showing all the islands, etc., visited by this Expedition will be found in Vol. XII, No. 6, of these Proceedings, copies of which can be supplied at nominal cost.

¹ E. Simon, Sur les Arachnides recueillis en Basse Californie par M. Diguët. Bull. Museum d'hist. Nat., 1895, pp. 105-107.

E. Simon, Descriptions de quelques arachnides de Basse Californie faisant partie des collections du Dr. Geo. Marx. Bull. Soc. Zool. France, Vol. XX, 1895, pp. 134-137.

² N. Banks, Arachnida from Lower California and other parts of Mexico. Proc. Calif. Acad. Sc., 3 ser., Vol. I, pp. 205-308, pl. xii-xvii, 1898.

April 14, 1924

The spider fauna of the Gulf of California region is complex, and is undoubtedly diverse in origin both as to the time and sources of derivation of its various groups and elements. This large group presents not one, but many problems of origin and distribution; for the adequate solution of these problems extensive and accurate work must be done on the arachnids of various other regions. This fauna, in the main, has been long established, as indicated by the large percentage of forms peculiar to the area, or extending but little beyond it, nearly two thirds of the known species and many genera falling in this category. The section seems to have been the center of origin for, or the highway for, various forms that have penetrated into the southwestern United States. The reverse movement of peculiarly North American forms has apparently been much more restricted, and one gets the impression from the affinities of the indigenous species and genera that so far as the more primitive and peculiar spider fauna is concerned, the Gulf of California area is tropical, an extension, as it were, of South America.

Along with indigenous species of familiar tropical genera such as *Selenops* and *Olios*, there are among the forms that appear to be most abundant in the area various species widespread in tropical America. The following species occur commonly in Mexico, Central America, the West Indies, parts of the southern United States, and to some extent also in the northern section of South America:

Scytodes fusca Walckenaer; *Physocyclus globosus* (Taczanowski); *Eustala anastera* (Walckenaer); *Neoscona oaxacensis* (Cambridge); *Cyclosa walckenaeri* (Cambridge); *Larinia directa* (Hentz); *Gea heptagon* (Hentz); *Selenops aissus* Walckenaer; *Ctenus hibernalis* Hentz; *Misumenops celer* (Hentz); *Peucetia viridans* (Hentz); *Thiodina sylvana* (Hentz).

In connection with these species may be mentioned *Thanatus rubicundus* Keyserling, and *Hamataliva grisea* Keyserling, common in the southeastern United States but found also in the West Indies and ranging into northwestern Mexico.

The forms listed below occur over the range represented for the preceding group but extend beyond also over the more southern parts of South America:

Filistata hibernalis Hentz; *Artema atlanta* Walckenaer; *Psilochorus pullulus* (Hentz); *Theridion fordum* Keyserling; *Theridion studiosum* Hentz; *Argiope argentata* (Fabricius); *Gasteracantha cancriformis* (Linnaeus).

Metepeira labyrinthea (Hentz) occurs from Labrador to Patagonia. *Heteropoda venatoria*, recorded from the cape region of Lower California, is tropicopolitan.

The following species occur in the cape region of Lower California (fide Banks, op. cit.), but, excepting in the case of *Araneus detrimentosus* and *Cyclosa bifurca*, are not represented in the present collection. These species are known otherwise to be found only in Mexico or Mexico and Central America excepting *Cyclosa fusiformis* which has been taken as far south as Peru:

Pacyhlomerus pustulosus Becker; *Eutychides dugesii* Simon; *Evagrus mexicanus* Ausserer; *Araneus bivariolatus* (Cambridge); *Araneus detrimentosus* (Cambridge); *Cyclosa bifurca* (McCook); *Cyclosa fusiformis* (Taczanowski); *Misumenops dubius* (Keyserling).

The record for *Evagrus mexicanus* may be based upon a specimen of the species here described as new under the name *Evagrus empiricus*. Simon also lists *Evagrus mexicanus* for Lower California but does not indicate the particular locality.

There is a large group of species occurring in the Gulf of California region which range otherwise up the Pacific Coast or over some part of the southwestern area of the United States. The actual areas and centers of distribution of these species vary greatly, however. Some of the forms have very limited known distributions, as in the cases of *Phidippus arizonensis* and *Phidippus mexicanus* known in the United States only from Arizona, and those of *Tmarus magniceps* and *Herpyllus validus*, occurring outside of the present region only in southern California and southwestern Arizona. On the other hand, *Marpissa californica*, for example, is found over a wide area in the southwestern United States and southward as far as Guatemala:

Eurypelma rusticum Simon; *Eurypelma steindachneri* Ausserer; *Diguetia canities* (McCook); *Psilochorus utahensis* Chamberlin; *Megamyrmecon cali-*

fornicum Simon; *Herpyllus validus* (Banks); *Lithyphantes pulcher* Keyserling; *Lithyphantes fulvus*; *Araneus gemmus* (McCook); *Europia californica* Banks; *Mimetus hesperus* Chamberlin; *Tmarus magniceps* Keyserling; *Xysticus discursans* Keyserling; *Olios fasciculatus* Simon; *Anachemmis sober* Chamberlin; *Pardosa sternalis* (Thorell); *Icius vitis* (Cockerell); *Marpissa californica* (Peckham); *Phidippus formosus* (Peckham); *Phidippus johnsonii* (Peckham); *Phidippus mexicanus* Peckham; *Phidippus arizonensis* (Peckham); *Dendryphantes imperialis* (Peckham); *Dendryphantes limbatus* (Banks); *Pellenes delectus* Peckham; *Pellenes dolosus* Peckham; *Pellenes elegans* Peckham; *Pellenes hirsutus* (Peckham); *Pellenes tranquillus* Peckham.

Theridion tepidariorum, *Metargiope trifasciata*, and *Menermus bivittatus* are cosmopolitan species, while *Loxosceles rufescens*, *Salticus scenicus*, *Scytodes thoracica* and *Misumena vatia* occur in the northern hemisphere in both the Old and the New World.

Of the more northern species such as occur in Canada and the northeastern United States a considerable number have found their way down the mountains in Mexico to such places as Tepic which have not been taken in Lower California or the islands of the Gulf. Of the species in this group the author finds in the present collection representatives of only *Dictyna volucripes*, *Agelena naevia*, *Cyclosa turbinata* and *Ariadna bicolor*. The other species in the list below are given on the authority of Simon, who unfortunately does not mention any specific localities, and Banks, whose specimens for the most part were from the cape region of Lower California. Some of these records are probably based upon misidentifications and require confirmation. The records for *Phidippus audax* (*P. morsitans*), listed by Simon, and for *Theridion rupicola* and *Dictyna sublata*, listed by Banks are to be questioned. The form from the cape given as *Linyphia phrygiana* is quite likely *Linyphia hespera* Chamberlin, which replaces the former species in the southwestern States:

Dictyna sublata (Hentz); *Dictyna volucripes* Keyserling; *Ariadna bicolor* (Hentz); *Theridion rupicola* Emerton; *Euryopis funebris* (Hentz); *Linyphia communis* Hentz; *Linyphia phrygiana* C. Koch; *Tetragnatha elongata* Walckenaer; *Cyclosa turbinata* (Walckenaer); *Mangora placida* (Hentz); *Mangora gibberosa* (Hentz); *Xysticus luctans* (C. Koch); *Misumenops asperatus* (Hentz); *Agelena naevia* Walckenaer; *Arctosa littoralis* (Hentz); *Lycosa carolinensis* Walckenaer.

In considering the forms that appear to be strictly peculiar to Lower California and the islands of the Gulf of California or ranging but a limited distance into adjacent territory, one notes that while some of these species belong to widespread genera such as *Oxyopes*, *Oxyopeidon*, *Olios* and *Selenops*, which are tropicopolitan, many other species belong to genera peculiar to the tropical region of America. Such a genus, for example is *Evagrus* which has heretofore been represented by one known species in Colombia, two in Central America and Mexico, and one in the United States. To this genus the present paper adds four new species from the Gulf of California area. Other genera in this category are *Eutychides*, occurring in California, Mexico and the West Indies, *Zorocrates*, otherwise known only from Central America, *Pocobletus*, known elsewhere from Venezuela, *Scaphiella*, found also in Venezuela and the West Indies, *Sosippus*, represented also in Central America, Mexico, Florida and California, *Nops*, occurring in the West Indies, across the northern section of South America and in Peru and Ecuador, and the atid genera *Hamataliva*, *Wala*, and *Sassacus*.

Of these genera *Nops* belongs to the small and highly interesting family *Caponiidæ*. This family is represented in South Africa by a single species, which is unique in the genus *Caponia*, being otherwise confined to America where it is represented by a considerable number of species in South America, Central America and the West Indies, these species forming two genera. The African species possesses eight eyes while the American species heretofore recorded have only two eyes, a unique condition among the *Araneina*. One of the American genera, *Nops*, occurs in Lower California and along with it in this territory and the islands of the Gulf representatives of three other genera herein described for the first time. In one of these genera four eyes are present, representing in this respect a transitional condition. The indication given by the occurrence in this region of four genera of *Caponiidæ* represented by seven species now known is of obvious relationship to the South American fauna at a probably remote date.

Among the spiders most abundant on the islands and shores of the Gulf of California are several species of the genus *Homalonychus*, which is peculiar to this region and the immediately adjacent parts. Other species of related genera of the same family, the *Zodariidæ*, are found elsewhere in America chiefly in South America, where they are found as far south as Patagonia.

Other genera restricted to this region or to it and immediately adjacent parts of Mexico and the United States (California, Arizona, New Mexico) are such as *Plectreurys*, *Digueta*, *Yumates*, a new genus, *Pericuris*, also a new genus, *Nodocion*, a gnaphosid genus represented by a considerable number of species as hereafter shown, *Chemmis*, *Anachemmis*, *Ebo* and *Syspira*.

The genus *Megamyrmecon*, represented by a number of species in California and the Gulf of California area is known elsewhere in America only in Chile, where one species has been reported. It occurs, however, as the genus is at present construed, also in the desert regions of Africa and in Madagascar and India. *Zimiris*, represented by at least one species in the cape region of Lower California and closely related to the new genus *Pericuris* mentioned above, is also known otherwise only from southern Arabia and from India.

An interesting case of discontinuous distribution is furnished by the peculiar six-eyed agelenid genus *Chorizomma*. Of this genus two species are known from California and Lower California but it has been found elsewhere only in southern France and in Spain. This is one of many similar cases afforded by widely diverse groups of organisms in which forms of the Pacific coast of North America have their nearest relatives in western Europe.

The spiders of the present collection taken at the different stations are listed below. The islands named between the last of the Sonoran and the first of the Lower Californian stations are nearer to and are believed to belong faunistically more closely to Sonora, while the islands adjacent to the peninsula are given after the stations of the latter.

ARIZONA

Nogales

Eurytelma sp. b.; *Filistata hibernalis* Hentz; *Herpyllus validus* (Banks); *Psilochorus pullulus* (Hentz); *Latrodectus mactans* (Fabricius); *Horodromus absolutus* new species; *Lycosa carolinensis* Walckenaer; *Phidippus johnsoni* (Peckham); *Dendryphantès diplacis* new species; *Pellenes hirsutus* (Peckham).

SONORA

San Pedro Bay

Evagrus pragmaticus new species; *Uloborus crepidinis* new species; *Loxosceles rufescens* (Dufour); *Scytodes fusca* Walckenaer; *Tarsonops systematicus* new species; *Homalonychus positivus* new species; *Psilochorus utahensis* Chamberlin; *Latrodectus mactans* (Fabricius); *Olios* sp.; *Selenops actophilus* new species; *Ctenus hibernalis* Hentz; *Syspira* sp.; *Chemmis monisticus* new species; *Arctosoma littoralis* (Hentz); *Sosippus pragmaticus* new species; *Pellenes pyrrihrix* new species.

San Carlos Bay

Eurytelma sp. b.; *Scytodes fusca* Walckenaer; *Theridion analyticum* new species; *Olios* sp.; *Selenops actophilus* new species; *Corinna epicureana* new species; *Sosippus pragmaticus* new species; *Hamataliwa positiva* new species; *Thiodina sylvana* (Hentz); *Dendryphantès zygoballoides* new species; *Pellenes pyrrihrix* new species.

Tepoca Bay

Ariadna pragmatica new species; *Cesonia classica* new species; *Gnaphosa synthetica* new species; *Cyclosa turbinata* (Walckenaer); *Meleteira labyrinthica* (Hentz); *Araneus detrimentosus* (Cambridge); *Eustala anastera buliafera* new subspecies; *Olios* sp.

Guaymas

Filistata hibernalis Hentz; *Plectreurys tristis* Simon; *Scytodes fusca* Walckenaer; *Ariadna bicolor* (Hentz) a; *Nodocion eclecticus* new species; *Nodocion* sp.; *Cesonia classica* new species; *Zelotes protestans* new species; *Zelotes reformans* new species; *Homalonychus positivus* new species; *Latrodectus mactans* (Fabricius); *Lithyphantès punctulatus* Marx; *Misumenops celer* (Hentz); *Misumenops dubius* (Keyserling); *Selenops actophilus* new species; *Syspira analytica* new species; *Syspira synthetica* new species; *Syspira longipes* Simon; *Lycosa carolinensis* Walckenaer; *Salicicus scenicus* (Clerck); *Menemerus bivittatus* (Dufour); *Wala poenitens* new species; *Phidippus arizonensis* (Peckham).

GEORGES ISLAND

Plectreurys tristis Simon.

PATOS ISLAND

Plectreurys bispinosus new species; *Scytodes fusca* Walckenaer; *Ariadna scholastica* new species; *Latrodectus mactans* (Fabricius); *Lithyphantes punctulatus* Marx; *Cyclosa turbinata* (Walckenaer); *Araneus detrimentosus* (Cambridge); *Mimetus hesperus* Chamberlin; *Olios naturalisticus* new species; *Syspira synthetica* new species.

TIBURON ISLAND

Evagrus empiricus new species; *Scytodes fusca* Walckenaer; *Nodocion* sp.; *Gnaphosa synthetica* new species; *Zelotes* sp.; *Homalonychus positivus* new species; *Theridion analyticum* new species; *Ceraticelus nesioles* Crosby, new species; *Argiope argentata* (Fabricius); *Cyclosa turbinata* (Walckenaer); *Olios naturalisticus* new species; *Selenops* sp.; *Ctenus hibernalis* Hentz; *Syspira* sp.; *Trachelas speciosus* Banks; *Thiodina sylvana* (Hentz); *Phidippus arizonensis* (Peckham); *Dendryphantes zygoballoides* new species.

PELICAN ISLAND

Filistata hibernalis Hentz; *Scytodes fusca* (Walckenaer); *Zelotes* sp.; *Latrodectus mactans* (Fabricius); *Argiope argentata* (Fabricius); *Araneus detrimentosus* (Cambridge); *Syspira synthetica* new species.

SAN ESTEBAN ISLAND

Eurypelma sp. b.; *Uloborus crepidinis* new species; *Dictyna volucripes* Keyserling; *Dictyna secuta* new species; *Loxosceles rufescens* (Dufour); *Pericuris insularis* new species; *Theridion analyticum* new species; *Lithyphantes punctulatus* Marx; *Larinia cymotypha* new species; *Selenops* sp.; *Oxyopeidon absolutum* new species; *Phidippus arizonensis* (Peckham); *Pellenes angelus* new species.

SAN PEDRO MARTIR ISLAND

Scytodes fusca Walckenaer; *Herpyllus validus* (Banks); *Lithyphantes punctulatus* Marx; *Thanatus peninsulanus* Banks; *Selenops* sp.; *Sassacus vanduzeei* new species.

SAN PEDRO NOLASCO ISLAND

Uloborus oweni new species; *Filistata hibernalis* Hentz; *Scytodes fusca* Walckenaer; *Nodocion pragmaticus* new species; *Megamyrmeleon* sp.; *Theridion analyticum* new species; *Lithyphantes punctulatus* Marx; *Metepeira labyrinthea* (Hentz); *Selenops* sp.; *Phidippus arizonensis* (Peckham).

LOWER CALIFORNIA

Ensenada

Citharoceps fidicina new species; *Cesonia classica* new species; *Zelotes* sp.; *Drassyllus empiricus* new species; *Thanatus retentus* Chamberlin; *Anachemmis sober* Chamberlin; *Cybæus tardatus* (Chamberlin); *Agelena nævia* Walckenaer; *Chorizomma californicum* Simon; *Phidippus formosus* (Peckham); *Pellenes dolosus* Peckham.

San Luis Gonzaga Bay

Filistata hibernalis Hentz; *Plectreuryx valens* new species; *Homalonychus theologus* new species; *Misumenops celer* (Hentz); *Salticus palpalis* Banks; *Dendryphantes imperialis* (Peckham); *Pellenes corticolens* new species.

Angeles Bay

Filistata hibernalis (Hentz); *Loxosceles rufescens* (Dufour); *Scytodes fusca* Walckenaer; *Megamyrmeleon pessimisticum* new species; *Zelotes monachus* new species; *Drassyllus rationalis* new species; *Homalonychus rationalis* new species; *Lithyphantes pulcher* Keyserling; *Lithyphantes punctulatus* Marx; *Olios* sp.; *Selenops* sp.; *Syspira analytica* new species; *Syspira* sp.; *Trachelas speciosus* Banks; *Trachelas* sp.; *Corinna* sp.; *Agelena* sp.; *Pardosa sabulosa* Banks; *Lycosa concolor* Banks; *Thiodina sylvana* (Hentz); *Marpissa californica* (Peckham); *Pellenes elegans* Peckham.

Las Animas Bay

Filistata hibernalis Hentz; *Scytodes fusca* Walckenaer; *Zelotes* sp.; *Misumenops celer* (Hentz); *Syspira* sp.; *Trachelas speciosus* Banks; *Agelena* sp.; *Thiodina sylvana* (Hentz); *Marpissa californica* (Peckham); *Pellenes elegans* Peckham.

San Francisquito Bay

Dictyna volucripes Keyserling; *Plectreuryx tristis* Simon; *Physocyclus mysticus* new species; *Theridion studiosum* Hentz; *Theridion geminipunctum* new species; *Latrodectus mactans* (Fabricius); *Argiope argentata* (Fabricius); *Eustala* sp.; *Misumenops celer* (Hentz); *Syspira synthetica* new species; *Trachelas* sp.; *Oxyopes actophilus* new species; *Marpissa californica* (Peckham); *Dendryphantes imperialis* (Peckham); *Dendryphantes chera* new species; *Pellenes dolosus* Peckham; *Pellenes elegans* new species.

Mulegé

Evagrus empiricus new species; *Dictyna mulegensis* new species; *Loxosceles rufescens* (Dufour); *Nodocion realisticus* new species; *Theridion realisticum* new species; *Misumenops celer* (Hentz); *Selenops* sp.; *Trachelas speciosus* Banks; *Pardosa orthodox* new species; *Pardosa sabulosa* Banks; *Arctosa littoralis* (Hentz); *Peucetia viridans* (Hentz); *Icius vitis* (Cockerell); *Pellenes delectus* Peckham; *Pellenes anepsius* new species.

Concepcion Bay

Dictyna volucrifpes Keyserling; *Filistata hibernalis* Hentz; *Scytodes fusca* Walckenaer; *Tarsonops clavis* new species; *Euryopsis californica* Banks; *Latrodectus mactans* (Fabricius); *Eustala* sp.; *Gasteracantha cancriformis* Linnæus; *Gayenna absoluta* new species; *Anyphana* sp.; *Oxyopeidon absolutum* new species; *Thiodina sylvana* (Hentz); *Dendryphantes imperialis* (Peckham); *Dendryphantes melanomerus* new species; *Pellenes elegans* Peckham.

San Evaristo Bay

Evagrus empiricus new species; *Theridion analyticum* new species; *Trachelas* sp.

San Nicolas Bay

Lithyphantes pulcher Keyserling; *Misumenops celer* (Hentz); *Lycosa carolinensis* Walckenaer.

Loreto (Including Cuesta Blanca)

Evagrus empiricus new species; *Eurypelma* sp. b.; *Filistata hibernalis* Hentz; *Plectreurys valens* new species; *Scytodes fusca* Walckenaer; *Artema atlanta* Walckenaer; *Misumenops celer* (Hentz); *Selenops* sp.; *Syspira* sp.

Puerto Escondido

Plectreurys valens new species; *Loxosceles rufescens* (Dufour); *Scytodes fusca* Walckenaer; *Scaphiella litoris* new species; *Megamyrmeleon asceticum* new species; *Homalonychus theologus* new species; *Physocyclus mysticus* new species; *Psilochorus dogmaticus* new species; *Lithyphantes pulcher* Keyserling; *Lithyphantes punctulatus* Marx; *Erigone eschatologica* Crosby, new species; *Tetrag-natha eremita* new species; *Misumenops celer* (Hentz); *Selenops nesophilus* new species; *Selenops* sp.; *Anyphana johnstoni* new species; *Syspira synthetica* new species; *Trachelas* sp.; *Pardosa sabulosa* Banks; *Peuceletia viridans* (Hentz).

Agua Verde Bay

Filistata hibernalis Hentz; *Poecilochroa* sp.; *Selenops* sp.; *Syspira* sp.; *Marpissa californica* (Peckham); *Pellenes elegans* Peckham.

La Paz

Dictyna volucrifpes Keyserling; *Filistata hibernalis* Hentz; *Yumates nesophila* new species; *Homalonychus theologus* new species; *Psilochorus* sp.; *Theridion positivum* new species; *Theridion analyticum* new species; *Lithyphantes punctulatus* Marx; *Cyclosa bifurca* (McCook); *Cyclosa turbinata* (Walckenaer); *Cyclosa walckenaeri* (Cambridge); *Olios* sp.; *Selenops* sp.; *Agelena* sp.; *Pardosa sternalis* (Thorell); *Dendryphantes imperialis* (Peckham.)

SAN LUIS ISLAND

Orthonops oertus new species; *Megamyrmecon naturalisticum* new species; *Gnaphosa synthetica* new species.

MEJIA ISLAND

Filistata hibernalis Hentz; *Diguetia stridulans* new species; *Homalonychus theologus* new species; *Lithyphantes punctulatus* Marx; *Metepeira labyrinthea* (Hentz); *Syspira synthetica* new species.

GRANITE ISLAND

Filistata hibernalis Hentz; *Scytodes fusca* Walckenaer; *Teutana nesiotis* new species; *Teutana* sp.

ANGEL DE LA GUARDA ISLAND

Dictyna volucrifpes Keyserling; *Filistata hibernalis* Hentz; *Loxosceles rufescens* (Dufour); *Scytodes fusca* Walckenaer; *Yumates angela* new species; *Nodocion pragmaticus* new species; *Lithyphantes punctulatus* Marx; *Ceraticelus nesiotis* Crosby, new species; *Argiope argentata* (Fabricius); *Metargiope trifasciata* (Forsk.); *Larinia cymotyfa* new species; *Misumenops celer* (Hentz); *Ebo mexicanus* Banks; *Olios* sp.; *Selenops nesophilus* new species; *Chiracanthium inclusum* (Hentz); *Syspira* sp.; *Agelena* sp.; *Oxyocheilus absolutum* new species; *Dendryphantes imperialis* (Peckham); *Pellenes elegans* Peckham; *Pellenes angelus* new species.

BALLENA ISLAND

Eragrus josephus new species; *Dictyna volucrifpes* Keyserling; *Filistata hibernalis* Hentz; *Plectreurys tristis* Simon; *Pericuris insularis* new species; *Megamyrmecon asceticum* new species; *Zelotes calvanisticus* new species; *Homalonychus* sp.; *Physocyclus mysticus* new species; *Psilochorus* sp.; *Lithyphantes punctulatus* Marx; *Syspira analytica* new species; *Pellenes elegans* Peckham.

SAL SI PUEDES ISLAND

Filistata hibernalis Hentz; *Cesonia classica* new species; *Lithyphantes punctulatus* Marx; *Cyclosa turbinata* (Walckenaer); *Selenops* sp.; *Syspira* sp.

SMITH ISLAND

Lithyphantes punctulatus Marx; *Selenops* sp.

ISLA PARTIDA

Eurytelma sp. b.; *Dictyna volucrifpes* Keyserling; *Filistata hibernalis* Hentz; *Loxosceles rufescens* (Dufour); *Scytodes fusca* Walckenaer; *Scytodes redempta* new species; *Ariadna philosopa* new species; *Megamyrmecon* sp.; *Psilochorus*

agnosticus new species; *Latrodectus mactans* (Fabricius); *Lithyphantes punctulatus* Marx; *Cyclosa turbinata* (Walckenaer); *Metepeira labyrinthea* (Hentz); *Ebo mexicanus* Banks; *Selenops* sp.; *Syspira eclecticica* new species; *Pellenes hirsutus* Peckham.

ISLA RAZA

Dictyna volucripes Keyserling; *Filistata hibernalis* Hentz; *Nodocion synthetix* new species; *Megamyrmecon* sp.; *Zelotes* sp.; *Psilochorus agnosticus* new species; *Latrodectus mactans* (Fabricius); *Cyclosa turbinata* (Walckenaer); *Ebo mexicanus* Banks; *Selenops nesophilus* new species.

NORTH SAN LORENZO ISLAND

Dictyna volucripes Keyserling; *Filistata hibernalis* Hentz; *Loxosceles rufescens* (Dufour); *Scytodes fusca* Walckenaer; *Psilochorus* sp.; *Theridion positivum* new species; *Lithyphantes punctulatus* Marx; *Argiope argentata* (Fabricius); *Metepeira labyrinthea* (Hentz); *Olios pragmaticus* new species; *Selenops* sp.; *Syspira* sp.; *Dendryphantes zygoballoides* new species.

SOUTH SAN LORENZO ISLAND

Eurypelma sp. b.; *Dictyna volucripes* Keyserling; *Filistata hibernalis* Hentz; *Loxosceles rufescens* (Dufour); *Theridion geminipunctum* new species; *Metepeira labyrinthea* (Hentz); *Araneus gemmus* (McCook); *Misumenops celer* (Hentz); *Olios pragmaticus* new species; *Agelena* sp.; *Celotes* sp.; *Marpissa californica* (Peckham); *Dendryphantes zygoballoides* new species; *Pellenes dolosus* Peckham.

TORTUGA ISLAND

Evagrus josephus new species; *Filistata hibernalis* Hentz; *Ariadna bicolor* (Hentz) c; *Megamyrmecon asceticum* new species; *Physocyclus mysticus* new species; *Psilochorus dogmaticus* new species; *Lithyphantes punctulatus* Marx; *Argiope argentata* (Fabricius); *Olios* sp.; *Selenops nesophilus* new species; *Lycosa concolor* Banks; *Oxyopes actophilus* new species; *Hamataliva* sp.; *Dendryphantes chera* new species.

SAN MARCOS ISLAND

Evagrus scepticus new species; *Uloborus crepidinis* new species; *Filistata hibernalis* Hentz; *Plectreurys valens* new species; *Scytodes fusca* Walckenaer; *Scytodes poenitens* new species; *Scaphiella litoris* new species; *Yumates nesophila* new species; *Psilochorus dogmaticus* new species; *Latrodectus mactans* (Fabricius); *Erigone eschatalogica* Crosby, new species; *Argiope argentata* (Fabricius); *Cyclosa turbinata* (Walckenaer); *Eustala* sp.; *Misumenops celer* (Hentz); *Selenops* sp.; *Anyphana johnstoni* new species; *Pardosa sabulosa* Banks; *Peucetia viridans* (Hentz); *Dendryphantes zygoballoides* new species; *Pellenes elegans* Peckham.

SANTA INEZ ISLAND

Filistata hibernalis Hentz; *Cesonia classica* new species; *Psilochorus* sp.; *Latrodectus mactans* (Fabricius); *Cyclosa turbinata* (Walckenaer); *Eustala anastera leuca* new subspecies; *Selenops* sp.; *Syspira eclecticica* new species; *Syspira* sp.; *Pellenes divaricatus* Banks.

ILDEFONSO ISLAND

Filistata hibernalis Hentz; *Ariadna bicolor* (Hentz) b.; *Latrodectus mactans* (Fabricius); *Cyclosa turbinata* (Walckenaer); *Misumenops celer* (Hentz); *Selenops* sp.; *Syspira analytica* new species; *Syspira* sp.; *Icius ildefonsus* new species.

CORONADOS ISLAND

Filistata hibernalis Hentz; *Plectreurys valens* new species; *Scytodes fusca* Walckenaer; *Homalonychus theologus* new species; *Psilochorus* sp.; *Lithyphantes punctulatus* Marx; *Micrathena funebris* (Marx); *Oxyopeidon absolutum obliquum* new subspecies; *Marpissa californica* (Peckham).

CARMEN ISLAND

Uloborus oweni new species; *Dictyna volucripes* Keyserling; *Oecobius isolatus* new species; *Plectreurys ceralbonus* new species; *Loxosceles rufescens* (Dufour); *Diguetia dialectica* new species; *Yumates nesophila* new species; *Homalonychus theologus* new species; *Psilochorus dogmaticus* new species; *Psilochorus* sp.; *Lithyphantes punctulatus* Marx; *Eustala* sp.; *Ebo mexicanus* Banks; *Olios* sp.; *Selenops* sp.; *Syspira* sp.; *Agelena* sp.; *Peucetia viridans* (Hentz); *Marpissa californica* (Peckham); *Phidippus arizonensis* (Peckham); *Dendryphantes imperialis* (Peckham); *Dendryphantes limbatus* (Banks); *Dendryphantes carmenensis* new species.

DANZANTE ISLAND

Plectreurys valens new species; *Segestria danzantica* new species; *Megamyrmeleon nesiotis* new species; *Homalonychus theologus* new species; *Psilochorus* sp.; *Selenops* sp.

MONSERRATE ISLAND

Eurypelma sp. a.; *Dictyna parvita* new species; *Filistata hibernalis* Hentz; *Plectreurys tristis* Simon; *Loxosceles rufescens* (Dufour); *Cesonia classica* new species; *Psilochorus* sp.; *Lithyphantes punctulatus* Marx; *Selenops* sp.; *Pellenes divaricatus* (Banks).

SANTA CATALINA ISLAND

Uloborus saphes new species; *Scytodes fusca* Walckenaer; *Ariadna bicolor* (Hentz) b.; *Selenops nesophilus* new species; *Pellenes polius* new species.

LAS GALERAS ISLAND

Filistata hibernalis Hentz; *Scaphiella hespera* new species; *Cyclosa turbinata* (Walckenaer); *Meteteira labyrinthea* (Hentz); *Eustala anastera buliofera* new subspecies; *Syspira analytica* new species; *Syspira synthetica* new species.

SANTA CRUZ ISLAND

Filistata hibernalis Hentz; *Loxosceles rufescens* (Dufour); *Ariadna bicolor* (Hentz) d.; *Homalonychus theologus* new species; *Lithyphantes punctulatus* Marx; *Syspira* sp.

SAN DIEGO ISLAND

Plectreurys tristis Simon; *Ariadna bicolor* (Hentz) d.; *Megamyrmecon nesiotis* new species; *Megamyrmecon* sp.; *Zelotes* sp.; *Latrodectus mactans* (Fabricius); *Lithyphantes punctulatus* Marx; *Syspira* sp.; *Dendryphantes chera* new species.

SAN JOSEF ISLAND

Dictyna volucrites Keyserling; *Dictyna* sp.; *Filistata hibernalis* Hentz; *Nodocion realisticus* new species; *Homalonychus theologus* new species; *Psilochorus* sp.; *Theridion positivum* new species; *Theridion analyticum* new species; *Lithyphantes punctulatus* Marx; *Argiope argentata* (Fabricius); *Microathena funebris* (Marx); *Selenops* sp.; *Syspira eclecticica* new species; *Syspira synthetica* new species; *Oxyopeidon absolutum* new species; *Dendryphantes chera* new species.

SAN FRANCISCO ISLAND

Homalonychus theologus new species; *Lithyphantes punctulatus* Marx; *Argiope argentata* (Fabricius); *Gasteracantha cancriformis* (Linnæus); *Misumenops celer* (Hentz); *Olios positivus* new species; *Selenops* sp.; *Phidippus arizonensis* (Peckham); *Pellenes elegans* Peckham; *Pellenes ammophilus* new species.

ESPIRITU SANTO ISLAND

Uloborus oweni new species; *Plectreurys tristis* Simon; *Diguetia canities* (McCook); *Zelotes catholicus* new species; *Homalonychus theologus* new species; *Psilochorus dogmaticus* new species; *Psilochorus* sp.; *Lithyphantes punctulatus* Marx; *Argiope argentata* (Fabricius); *Gasteracantha cancriformis* (Linnæus); *Syspira* sp.; *Arctosa littoralis* (Hentz); *Marpissa californica* (Peckham); *Phidippus arizonensis* (Peckham); *Dendryphantes imperialis* (Peckham); *Dendryphantes limbatus* (Banks).

CERALBO ISLAND

Uloborus oweni new species; *Filistata hibernalis* Hentz; *Plectreurys ceralbonus* new species; *Scytodes fusca* Walckenaer; *Tarsonops sectipes* new species; *Nopsides ceralbona* new species; *Pericuris insularis* new species; *Psilochorus dogmaticus* new species; *Psilochorus* sp.; *Teutana nesioles* new species; *Lithyphantes punctulatus* Marx; *Argiope argentata* (Fabricius); *Cyclosa bifurca* (McCook); *Misumenops celer* (Hentz); *Olios scepticus* new species; *Selenops* sp.; *Systira* sp.; *Dendryphantes imperialis* (Peckham); *Pellenes ammophilus* new species.

The collecting of the arachnids on the California Academy of Sciences expedition of 1921 was in the special charge of Joseph C. Chamberlin who is to be congratulated on the fine lot of material secured. Unless otherwise indicated in connection with the locality records under the various species, it is to be understood in each case that the specimens were collected by him. Many specimens were taken also by E. P. Van Duzee incidentally to his own more particular objectives. Assistance was given in collecting at various times likewise by I. M. Johnston and Virgil Owen. In addition to the species belonging to this collection some new forms from other localities, such as California in particular, which were noted in the course of this study, are described in an accompanying paper.

The author is under obligations to Dr. Barton Warren Evermann and E. P. Van Duzee of the California Academy of Sciences for the opportunity of studying this important collection, and to J. C. Chamberlin and I. M. Johnston for details of information given in the course of the work. His particular thanks are due Prof. C. R. Crosby of Cornell University for supplying descriptions of several species in the Linyphiidæ, which must accordingly bear his name as hereafter indicated in each such case. Prof. Crosby also supplied illustrations made by J. W. Force of these and several related species. Mr. Force's monogram accompanies each of these drawings. All other drawings in the paper were made by the author.

LIST OF THE SPECIES

AVICULARIIDÆ

1. *Evagrus empiricus* Chamberlin, new species

Female: Carapace dark brown of chestnut cast, the chelicerae similar. Legs and sternum brown. Abdomen purplish grey, the spinnerets brown, lighter at tips. Anterior median eyes only about one-half their radius from lower margin of clypeus. Anterior median eyes fully as far, or a little farther, from the posterior median eyes than from each other. Posterior median eyes a little larger than anterior median eyes; broadly obovate in shape, fully half their radius from the posterior lateral eyes. Posterior row of eyes very nearly straight, only slightly recurved. Lower margin of chelicera with eleven dark teeth, the upper with none, as usual. Spinnerets three-fourths, or a little more, as long as the abdomen. Length, 17 mm. Length of cephalothorax, 7 mm.

Type: Female, No. 1359, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 14, 1921, at **Mulegé, Lower California**. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z. Cuesta Blanca, ten to fifteen miles north of Loreto, May 20, 1921 (young); San Evaristo Bay, June 10, 1921; Tiburon Island, April 23, 1921, one immature female.

Characterized by close proximity of anterior median eyes to margin of clypeus, the nearly equidistant median eyes, and the essentially straight posterior eye row. In the young paratype from north of Loreto, the posterior row of eyes is more procurved, but in that from Tiburon and San Evaristo it is essentially straight as in the holotype.

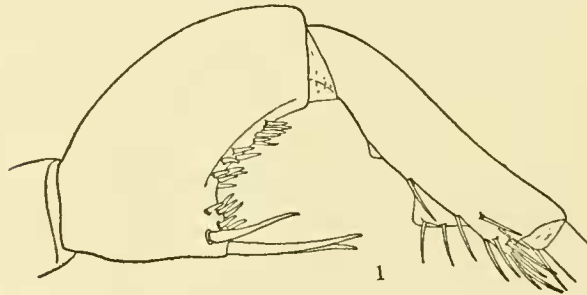
2. *Evagrus pragmaticus* Chamberlin, new species

Fig. 1. *Evagrus pragmaticus*, tibia and metatarsus of leg II of male, posterior side.

Male: Carapace light brown of slightly chestnut cast. Sternum clearer brown. Legs also brown with anterior pairs slightly chestnut. Abdomen dark grey, the spinnerets brown. Anterior median eyes about three-fourths their longer diameter from lower margin of clypeus. Anterior median eyes their radius, or a little more, apart and nearly as far from the posterior median eyes. Posterior median eyes subcircular, a little angled, considerably larger than the anterior median eyes, close to, but plainly separated from, the posterior laterals. Leg I in general as in preceding species. Tibia II with spurs of process as in *clarus* but the process and joint as a whole somewhat differently formed and related. A conspicuous difference from *clarus* is presented in tibia II in which there is a second and more pronounced process toward the distal end which is lacking in *clarus*. (Fig. 1). Posterior spinnerets equal in length to abdomen. Palpus very similar to that of *josephus*. Length, 10.25 mm.

Type: Male, No. 1360, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, July 7, 1921, at San Pedro Bay, Sonora. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z., same data.

3. *Evagrus josephus* Chamberlin, new species

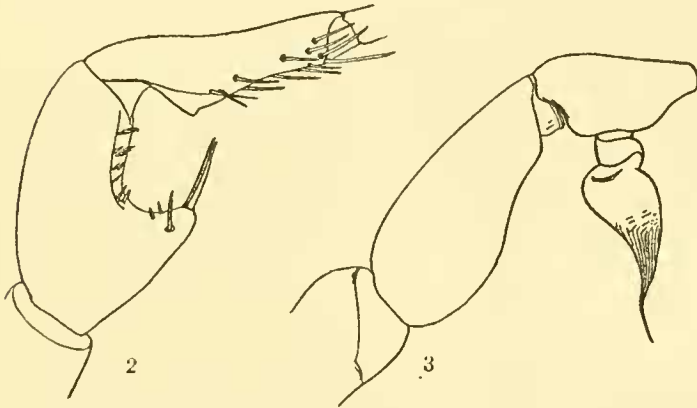


Fig. 2. *Evagrus josephus*, right leg II of male, posterior side.

Fig. 3. Right male palp, ectal view.

Male: Carapace and sternum brownish yellow; legs light brown; abdomen dark grey. Anterior median eyes not more than their radius from lower margin of clypeus. Anterior row of eyes strongly procurved; medians much smaller than laterals, somewhat more than their radius apart and nearly the same distance from the posterior medians. Posterior median eyes obviously larger than anterior medians, nearly contiguous with the posterior laterals. Tibia I with numerous long spines beneath; tibia II enlarged, with the characteristic projection beneath as in *E. mexicanus* Ausserer but this with apex more nearly

below middle of the article; this process bearing at apex two long, stout spines, which project nearly parallel to axis of joint, and ectad of these a smaller one; on caudal edge three or four smaller spines; ventral surface distad of process bearing numerous short spines. Metatarsus II with an angular prominence toward base instead of toward distal end as it is in *mexicanus*, (fig. 2). Palpus as represented in fig. 3. Length, 12 mm.

Type: Male, No. 1361, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 11, 1921, on **Tortuga Island, Gulf of California**. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; Tortuga Island, May 11, 1921, one immature individual; Ballena Island, June 9, 1921, one male.

The male from Ballena Island has the posterior median eyes proportionately smaller than in the type.

Mr. Chamberlin's field note on the Tortuga specimen states that this form spins "irregular, branching silken tubes under stones, etc. Collected for the most part near the summit of the island around rim of the crater; elevation 500-1000 feet."

4. *Evagrus scepticus* Chamberlin, new species

Male: Carapace, sternum and legs yellowish brown. Abdomen yellowish grey beneath and over sides, dark grey or blackish over dorsum. Anterior median eyes less than their radius from lower margin of clypeus, about their radius apart, a little nearer to the posterior laterals, which are equal in size to the anterior median eyes or a little longer. Unfortunately, both first and second legs of the holotype are lost. Spinnerets longer than abdomen. Palpus as in *josephus*, but stylus of bulb straighter. Length, 9 mm. Length of cephalothorax, 4.2 mm.

Type: Male, No. 1362, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 18, 1921, on **San Marcos Island, Gulf of California**. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; same data, three females.

A smaller and lighter colored species than the others here described. The field note states: "The web-weaving aviculariids comparatively common under stones."

Eurypelma sp. *a*

Three adult females which cannot be safely referred to their species without a study of males, since several species

from the southwestern United States and Lower California are at present known from males only, and of certain others the females are insufficiently described. The present species differs from *steindachneri* and *hentzii* (Dugesiella) in lacking distinctly spine-like setæ on the anterior face of coxa I.

Locality: Monserrate Island, May 25, 1921, three females.

Eurypelma species *b*

Young individuals, which usually have the black spot on the abdomen such as present, e. g., *E. steindachneri*, were taken at several localities. They cannot be identified specifically.

Localities: Nogales, Arizona, April 4, 1921, one, E. P. Van Duzee; San Carlos Bay, July 8, 1921, one; Loreto, May 19, 1921, one; San Esteban Island, April 9, 1921, one; Isla Partida, April 22, 1921, three; South San Lorenzo Island, June 24, 1921, one.

ULOBORIDAE

5. *Uloborus oweni* Chamberlin, new species

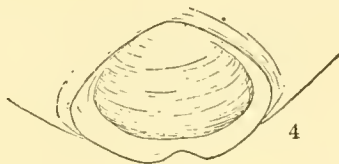


Fig. 4. *Uloborus oweni*, epigynum, ventral view.

Female: Carapace black, with a whitish border on each side, and an arrow-head-shaped light area on pars cephalica followed on pars thoracica with a light area more or less geminate by a median black line. Sternum black. Femur of leg I black, with a longitudinal light mark on basal half on anterior and one on posterior surface and a white ring just distad of the middle; tibia also blackish with a light ring at base and one at middle; metatarsus lighter, with a short black annulus at distal end; tarsus light. Femur of second and following legs black with a wide white annulus each side of middle, the tibia with a light annulus at base and one at middle, the metatarsus light excepting a black annulus just distad of base and a narrow annulus at distal end. Abdomen silvery white above with a dark median longitudinal line at base and several cross marks of black behind, the chief of these being at the level of the posterior humps. Sides of abdomen crossed by oblique black bands and spots. Venter light at sides but middle region black throughout length, the

black area typically enclosing two or three pairs of light curved marks. The abdomen bears a pair of dorsal humps just in front of middle; in front of them it rises still higher and shows typically two slighter nodules or bosses in front of the others; behind the middle descending concavely but elevated at caudal end above the spinnerets instead of slanting directly to these. Epigynum, fig. 4. Length, 5.2 mm.

Type: Female, No. 1363, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 23, 1921, at Marquer Bay, **Carmen Island, Gulf of California**. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z., same data as type, seven females, J. C. Chamberlin, Virgil Owen and I. M. Johnston; Arroyo at El Mostrador, Ceralbo Island, June 8, 1921; three specimens; San Pedro Nolasco Island, April 17, 1921, four immature specimens; San Gabriel Bay, Espiritu Santo Island, June 1, 1921, one; San Pedro Bay, July 7, 1921, two.

6. *Uloborus crepidinis* Chamberlin, new species

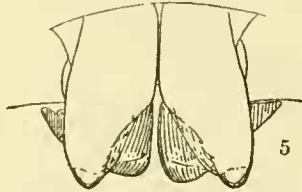


Fig. 5. *Uloborus crepidinis*, epigynum.

Female: Carapace yellowish over sides and along middle, a dark longitudinal stripe on each side between these paler areas. Sternum blackish. Leg I yellowish throughout excepting somewhat more than the distal third of the tibia, which is black, or the femur somewhat dusky above. Other legs yellowish throughout, without dark annuli, excepting the femora which may have two dark cross marks above. Abdomen above yellowish, with a median black area on posterior portion, furcate in front and enclosing a light mark behind. Sides of abdomen dusky brown. Venter in front of rima genitalis brown, behind it in middle brownish yellow, at sides yellow. Abdomen less elevated in front than in most, bearing there the usual two humps, dorsum slanting but moderately caudad, posteriorly protruding a little above and behind the spinnerets, caudally rounded. Epigynum, fig. 5. Length, 4 mm.

Type: Female, No. 1364, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 19, 1921, from its web under a ledge of rock at an elevation of about 100 feet on **San Esteban**

Island, Gulf of California. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; San Marcos Island, May 12, 1921, one female; San Pedro Bay, Sonora, July 7, 1921, one female.

7. *Uloborus saphes* Chamberlin, new species

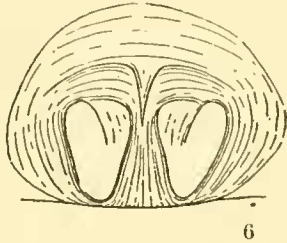


Fig. 6. *Uloborus saphes*, epigynum.

Female: Carapace uniform black. Sternum and coxæ of legs beneath black. Leg I with femur, patella and tibia solid black; metatarsus yellow proximally, solid black over more than distal third; tarsus yellow proximally, dark distally. Following legs have femur black with a narrow yellow ring at base and one at middle; patella black; tibia black with an annulus of whitish color at middle and a less distinct one at proximal end; metatarsus with a white annulus at base and one at middle, elsewhere blackish or brown; tarsus whitish over proximal half, blackish or brown over distal half. Abdomen blackish above, with two pairs of light marks caudad of middle, two light areas in front of tubercles, with an oblique light mark in front of middle; venter with a brownish stripe along each side, but solid black over middle region from end to end. Abdomen moderately elevated anteriorly, with two weak tubercles; dorsum slanting gradually to spinnerets. Epigynum, fig 6. Length, 3.2 mm.

Type: Female, No. 1365, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 12, 1921, on **Santa Catalina Island, Gulf of California.**

DICTYNIDÆ

8. *Dictyna volucripes* Keyserling

Verh. Zool. bot. Ges. Wien, 1881, XXXI, p. 286, pl. 11, f.11.

Localities: La Paz, April 11, 1921, one male; San Francisquito Bay, May 10, 1921, one male, three females; Concepcion Bay, June 17, 1921, one immature female; San Esteban Island, April 20, 1921, two females, E. P. Van Duzee; Isla Raza, April 21, 1921, one female; South San Lorenzo Island, May 9, 1921, several females; Puerto Ballandra, Carmen Island, May 21, 1921, immature female, E. P. Van Duzee; Ballena Island, June 8, 1921, one female;

San Josef Island, June 10, 1921, one female; North San Lorenzo Island, June 24, 1921, one male, ten females, partly immature; Isla Partida, about July 1, one male and five females, June 25, 1921, one female; Angel de la Guarda Island, June 29, 1921, one male, E. P. Van Duzee; Pond Island, July 2, 1921, one male.

A common species in the United States, occurring from Massachusetts to California.

9. *Dictyna mulegensis* Chamberlin, new species



Fig. 7. *Dictyna mulegensis*, left palpus of male, ectal view.

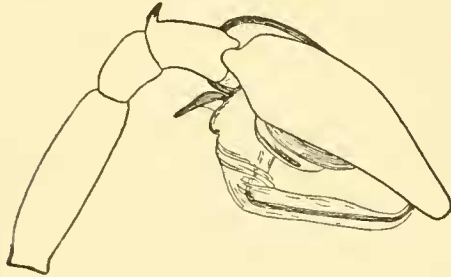
Fig. 8. Caudal process of bulb of same, ventral view, more enlarged.

Fig. 9. Dorsal view of patella and tibia of same.

Male: Carapace blackish brown, with the usual white hairs. Legs yellow. Abdomen at present grey but not in condition to show original markings. Anterior median eyes smaller than the laterals but almost equalling the posterior medians. Area of median eyes about equal in width in front and behind. The species is characterized by the form of the palpus. The tibial apophysis suggests that of *D. volucripes* but is more strongly curved; on outer side of patella a characteristic setose lobe. Caudal spur of bulb as shown in figs. 7 and 8. Length, 2 mm.

Type: Male, No. 1366, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, May 15, 1921, at **Mulegé, Lower California**.

Resembles *D. volucripes* in general structure of palpus, but differs in processes of tibia and in the details of bulb, as, e. g., in form of caudal spur. It also differs in its clearly smaller anterior median eyes.

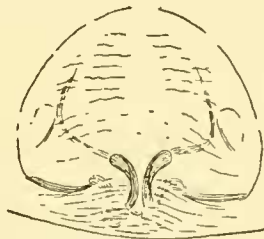
10. *Dictyna secuta* Chamberlin, new species

10

Fig. 10. *Dictyna secuta*, right palpus of male, ectal view.

Male: Carapace yellowish brown, the pars cephalica darker on sides behind, and the pars thoracica with a black marginal line on each side. Sternum yellowish brown, blackish about margins. Legs yellow, blackish at extreme distal end of tibiae and metatarsi. Dorsum of abdomen whitish with a median longitudinal black mark at base; sides black; venter whitish excepting just in front of spinnerets where blackish. Pars cephalica rather long and narrow in proportion to pars thoracica. Palpus as shown in fig. 10. Length, 2 mm.

Type: Male, No. 1367, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 19, 1921, on **San Esteban Island, Gulf of California**, "under bark of a loose-scaling mesquite tree."

11. *Dictyna parcita* Chamberlin, new species

11

Fig. 11. *Dictyna parcita*, epigynum.

Female: Carapace dusky brown, nearly black on the sides. Sternum, labium and endites blackish. Legs dusky over yellow, the black on tibiae more or less condensed into an annulus at base and one at distal end, and metatarsus with an annulus at distal end and one at middle; tarsus also darkened distally:

Abdomen dark brown or blackish, with two or more light chevrons on the dorsum at and caudad of the middle, the sides broken with numerous light dots and streaks; venter rather lighter but with a broad median longitudinal area of darker color caudad of the rima genitalis. Epigynum, fig. 11. Length, to 3 mm.

Type: Female, No. 1368, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 25, 1921, on **Monserate Island, Gulf of California**. *Paratype* in M. C. Z., female, No. 1246, same data. Most readily distinguished by the epigynum.

Dictyna sp.

Four specimens not definitely referred to their species were taken on San Josef Island, June 10, 1921.

OECOBIIDÆ

12. *Oecobius isolatus* Chamberlin, new species

Female: Carapace black, or blackish throughout. Sternum dusky over borders, paler centrally. Legs yellow, annulate with black, the annuli commonly incomplete above and below. Abdomen above with a network of brown lines and spots over a silvery ground and with a larger dark central mark which presents a point anteriorly, one posteriorly, and two on each side; venter pale, with some small silvery dots behind genital furrow; a dark spot at base of spinnerets on each side and a larger dark area in anterior lateral region.

Carapace widest behind middle, narrowing forward to an anterolateral angle on each side, the outline being less evenly curved than in *O. parietalis*. Abdomen more pointed behind than in *O. parietalis*. Length, 1.5 mm. (Not fully mature.)

Type: Immature female, No. 1369, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 21, 1921, in **Fig Cañon, Puerto Ballandra, Carmen Island, Gulf of California**. *Paratype*: Immature female, M. C. Z. No. 1232, same data.

FILISTATIDÆ

13. *Filistata hybernalis* Hentz

Jour. Bost. Soc. Nat. Hist., 1842, IV, p. 227, pl. 8, fig. 6.

Localities: Guaymas, two, taken April 9 and two April 12, by E. P. Van Duzee, also four taken April 14 and four April 15 by J. C. Chamberlin; La Paz, April 11, 1921, one immature specimen; San Luis Gonzaga Bay, April 29, seven; Las Animas Bay, May 8, one; Agua Verde, May 26, one; Loreto, May 14, 20, one on each date; Concepcion Bay, June 17, one female; Angeles Bay, June 25, four; Nogales, Arizona, April 4, two, taken by E. P. Van Duzee; Sal Si Puedes Island, April 9, two; Isla Partida, April 21, one young; Isla Raza, April 21, one female; Mejia Island, April 30, two; San Pedro Nolasco Island, April 17, one young; Granite Island, May 2, five; San Marcos Island, May 12, June 20,

several young; Tortuga Island, May 11, four; Santa Inez Island, May 13, many, mostly young, collected by E. P. Van Duzee and J. C. Chamberlin; Ildefonso Island, May 17, one young; Coronados Island, May 18, three; Monserrate Island, May 25, two young; Santa Cruz Island, May 27, one female; South San Lorenzo Island, May 9, one; North San Lorenzo Island, June 24, two; San Josef Island, June 10, one young; Ballena Island, June 9, three; Pond Island Bay, Angel de la Guarda Island, June 30, two, E. P. Van Duzee; Las Galeras Island, June 13, many, of various ages; Ceralbo Island, June 8, one young; Pelican Island, July 6, two females.

A species widespread in the warmer parts of America, occurring across the southern section of the United States from the Atlantic to the Pacific and southward to Paraguay and Argentina.

SCYTODIDÆ

Genus *Plectreurys*

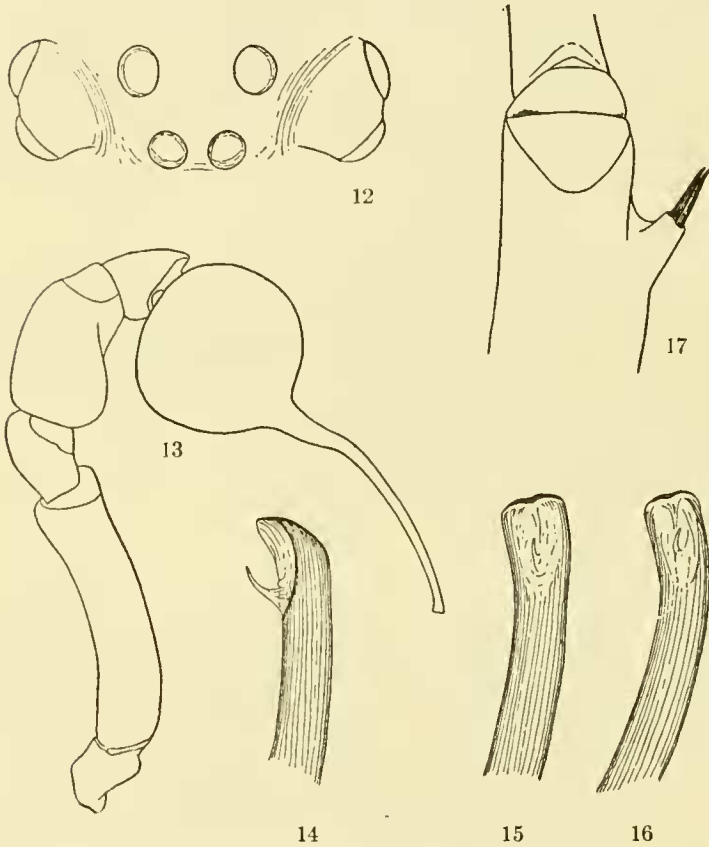
A considerable number of specimens of these eight-eyed scytodids occur in the collection of the Expedition, though, unfortunately, comparatively few males are among these, rendering it difficult in some cases to be wholly sure of the identification. All the known species of this genus have been found in the southwestern United States and in Mexico in the region about the Gulf of California. The species now known may be separated by means of the following key.

Key to species of Plectreurys

- a₁. Posterior row of eyes a little procurved.....*P. castanca* Simon.
- a₂. Posterior row of eyes recurved.
 - b₁. Tibia I in female slender, its ventral spines long and nearly equal to the diameter of the article; spines of metatarsus I obviously exceeding its diameter.
 - c₁. Cephalothorax and legs light chestnut; tibia I with seven spines beneath and only two on caudal face; length near 6 mm.....
.....*P. ceralbonus* new species.
 - c₂. Cephalothorax and legs dark mahogany or blackish; tibia I with nine or ten spines beneath and with four or five on caudal face; length near 12 mm.....*P. valens* new species.
 - b₂. Tibia I in female proportionately thicker, with its ventral spines short and much less than equalling the diameter of the article.
 - c₁. Spur of tibia I in male bearing two contiguous spines.....
.....*P. bispinosus* new species.
 - c₂. Spur of tibia I in male bearing only one stout spine.
 - d₁. Spine of palpal organ but little curved, not at all coiled.....
.....*P. tristis* Simon.
 - d₂. Spine of palpal organ coiled at base.....*P. bicolor* Banks.

It seems desirable to separate *Plectreureys suprenans* Chamberlin, found in California, as a distinct genus. This is diagnosed hereafter as *Kibramoa*.

14. *Plectreureys bispinosus* Chamberlin, new species



- Fig. 12. *Plectreureys bispinosus*, eyes, dorsal view.
 Fig. 13. Right palpus of male, ectal view.
 Fig. 14. Tip of spine of bulb of same more enlarged.
 Fig. 15. Same, different view.
 Fig. 16. Same in another specimen.
 Fig. 17. Distal end of left leg I of male from below.

Male: Carapace, sternum and legs deep black, sometimes showing a weakly chestnut background. Abdomen grey.

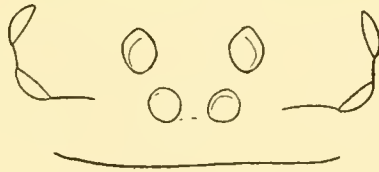
Integument of carapace lightly coriaceous, in part finely punctate. Pars cephalica with a conspicuous depression along the middle caudad of the eye region. Posterior median eyes as large as the laterals; separated from each other by more than their diameter, a little farther from the laterals. Anterior median eyes much smaller than the posterior medians, separated from each other by their radius; the laterals a little larger than the medians but smaller than the posterior eyes; lateral eyes of each side on a prominent tubercle.

First legs long and robust; tibia with the characteristic spur at the distal end on the ectoventral side as in *P. tristis*, but this spur bears two contiguous spines instead of one (fig. 17). Both metatarsus I and tarsus I conspicuously bowed, the convexity dorsal. Metatarsus I at distal end with two stout spines on mesal side and two slender ones beneath. Tibia of palpus more than twice as long as the small patella, thickened as in *tristis* but with the swelling especially prominent at proximal end. Setæ of the femur borne on granules. Bulb large and subglobose. Spine much longer than the bulb, a little thickened at base, moderately curved and at the end slightly clavate as in *tristis* but not notched, and with a fine spine on one side (figs. 14 and 15). Length, 12 mm.

Female: Coloration and integument as in the male. Eyes as shown in fig. 12. Tibia and metatarsus of first legs not modified as in the male; tibia I with usually five spines under caudal border and four or five under anterior border, these short and widely separated. Length, up to 15 mm. Length of cephalothorax, 6.2 mm. Tib. + pat. I, 5.6 mm.

Type: Male, No. 1370, and *allotype*, female, No. 1371, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 23, 1921, on Patos Island, Gulf of California. *Paratype* male, in M. C. Z., same data.

15. *Plectreurys valens* Chamberlin, new species



18

Fig. 18. *Plectreurys valens*, eyes, dorsal view.

Female: Cephalothorax and first joints of legs mahogany colored, the metatarsi and tarsi typically chestnut or lighter, the tibiae also sometimes light colored; abdomen grey.

Eye rows wider than usual; posterior row decidedly recurved, its eyes widely separated; median eyes once and a third, or more, their diameter apart and

once and five-sixths their diameter from the laterals; anterior median eyes with diameter about five-sixths that of the posterior medians, four-fifths their radius apart, and fully twice their diameter from the laterals. Legs exceptionally long, the fourth fully as long as, or a little longer than, the first. Tibia I with nine or ten spines below, four under the anterior border and five under the posterior; four to six spines on the anterior face and four or five on the posterior; the spines all long. Metatarsus I with ten spines beneath; three spines on anterior and three on posterior face; spines exceeding the diameter of the joint. Metatarsus about four-fifths as long as the tibia. Length, 12 mm.; cephalothorax, 5.1 mm.; tib. + pat. I, 6 mm.

Type: Female, No. 1372, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 21, 1921, at **Cuesta Blanca, 15 miles north of Loreto, Lower California, on the trail to Mulegé.** *Paratypes*: females in Mus. Calif. Acad. Sci. and M. C. Z., San Luis Gonzaga Bay, April 29, two females taken under stones less than one mile from beach; Puerto Escondido, May 29, one adult and two immature females taken under stones at mouth of gorge; San Marcos Island, May 12, two females, taken under stones at mouth of cañon; Coronados Island, May 18, one female; Danzante Island, May 24, one young female, probably of this species.

16. *Plectreurys ceralbonus* Chamberlin, new species

Female: Cephalothorax and legs pale chestnut in color; abdomen of a somewhat olive grey color, the hairs sparse.

Posterior row of eyes a little recurved; median eyes about once and a third their diameter apart and once and two-thirds their diameter from the laterals; anterior median eyes with diameter five-sixths that of the posterior medians; lateral eyes on each side not fully their radius apart. Tibia I with seven spines below, these not strictly paired excepting the two apical; four spines on anterior face and two on posterior; the ventral spines equalling the diameter of the joint or nearly so. Metatarsus I also with seven spines beneath; two spines on anterior face and none on posterior; ventral spines equalling or exceeding the diameter of the article.

Length, 6 mm.; cephalothorax, 3.1 mm.; tib. + pat. I equal in length to cephalothorax.

Type: Female, No. 1373, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 7, 1921, at **Rufo's ranch-house on west coast of Ceralbo Island, Gulf of California.** *Paratypes*: same data, one female; Puerto Ballandra, Carmen Island, May 21, one female.

17. *Plectreurys tristis* Simon

Ann. Soc. Ent. France, 1893, p. 300; Hist. Nat. Araign., 1893, I, p. 265, fig. 220-222.

Localities: Guaymas, Sonora, one female taken on a rocky hill northeast of the S. P. depot, April 15; San Francisquito Bay, May 10, one male; Georges Island, April 26, numerous specimens; Monserrate Island, May 25, one female, somewhat variant; Ballena Island, June 9, two females; San Diego Island, May 27, one female; Espiritu Santo Island, June 1, one female.

These specimens vary from deep black, as is typical, to chestnut. The posterior median eyes vary considerably as to size in comparison with the anterior medians and as to distance from each other. The species was previously known from Arizona.

Kibramoa Chamberlin, new genus

Agreeing with *Plectreurys* in the possession of eight eyes, in having the sternum acute behind, and in the structure of chelicerae and labium. It differs in its much longer and more slender legs and in not having the first pair noticeably more robust than the others. It differs in the male in wholly lacking a spur at the distal end of tibia I.

Genotype. *K. suprenans* (Chamberlin).

18. *Loxosceles rufescens* Dufour

Scytodes rufescens Dufour, Ann. gen. sci. Phys., 1820, IV, p. 203, pl. 77, f. 5.

Localities: Angeles Bay, June 25, two; 10-15 miles north of Loreto, on trail to Mulegé, May 20, two; Mulegé, May 14, one; Puerto Escondido, May 29, one; San Pedro Bay, July 7, two; Puerto Ballandra, Carmen Island, May 21, two, one taken by V. Owen; Monserrate Island, May 24, one; Angel de la Guarda Island, May 6, one; Santa Cruz Island, June 11, one; North San Lorenzo Island, June 20, one young; South San Lorenzo Island, May 9, one female; San Esteban Island, April 19, two; Pond Island, June 30, two females; Isla Partida, April 22, two immature specimens.

A species widespread in Eurasia as well as in the northern half of the western hemisphere.

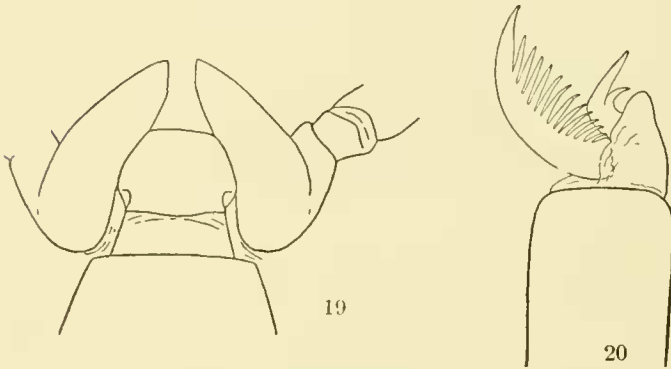
19. *Diguetia stridulans* Chamberlin, new speciesFig. 19. *Diguetia stridulans*, labium and endites.

Fig. 20. Distal end of tarsus of leg I of same, setæ omitted.

Female: Cephalothorax and legs with integument yellowish, clothed in life with white scales; abdomen with integument dusky, clothed also with white scales and long, aculeate setæ.

Cephalothorax rather narrow, much longer than wide. The furrows setting off the head meet behind in a transverse depression on the pars thoracica. Median eyes but slightly forward of the laterals, the ocular group being essentially transverse; separated from the laterals by about the diameter of an eye; lateral eyes separated from each other by less than their radius. Labium distinctly set off and laterally excavated toward base, the excision long but shallow (fig. 19).

Chelicerae on outer face striate, the femur of palpus bearing a series of tubercles opposite this striate area. Legs long and slender, bearing numerous long setæ which on the distal joints of the first pairs become more spinescent; paired claws typically with twelve teeth as shown in fig. 20; several types of plumose hairs accompany claws. On ventral side of abdomen the integument is leathery, almost scutelliform, in front of rima genitalis and also in front of spinnerets. Total length, 4.2 mm.; tib. + pat. I, 3.2 mm.

Type: Female, No. 1374, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 30, 1921, on **Mejia Island, Gulf of California.**

This species differs at sight from *D. canities* in having long, coarse setæ on the abdomen, in lacking bands on the legs, etc. The striæ on the external face of the chelicerae differ conspicuously from those in *canities*. In the latter the striæ are all exceedingly fine and close-set; but in *stridulans*, in addition to these fine striæ, there are much coarser ones at

intervals in the series which are visible even under the low power of the microscope.

20. *Diguetia dialectica* Chamberlin, new species

Female: In general appearance resembling *D. canities* McCook, but a smaller species with anterior legs relatively somewhat longer. Carapace less densely clothed with white hair but with two denser lines of white hair on pars cephalica uniting behind to form an elongate V-shaped mark. Sternum light in the middle, blackish at the sides, clothed with white hairs. Legs with the joints annulate with black at the ends as in *canities* but differing in that the median annulus of the tibiae is narrow, less deep, and is in all cases incomplete above. Abdomen less densely and less uniformly clothed with white hairs than in *canities*, a dark mark showing on basal part above and as far back as middle, the white hairs on it being sparse; behind this a light area with more numerous white hairs bordered on each side by a wavy line of denser white hair; integument of venter dark brown, less densely clothed with white hair than the sides.

Anterior row of eyes slightly recurved. Striae on external face of chelicerae exceedingly fine and close-set as in *canities*. Length, 5 mm.

Type: Female, No. 1375, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 23, 1921, at **Puerto Ballandra, Carmen Island, Gulf of California.**

21. *Diguetia canities* McCook

Segestria canities McCook, American Spiders, 1889, II, p. 136, f. 165, 166.

Locality: Espiritu Santo Island, June 1, two females.

Previously known from Texas, California and Lower California.

21a. *Scytodes fusca* Walckenaer

Ins. Apt., 1837, p. 272.

Localities: Guaymas, two females taken April 9 by E. P. Van Duzee and one female taken April 15 by J. C. Chamberlin; San Pedro Bay, July 7, two females; San Carlos Bay July 8, E. P. Van Duzee; Puerto Escondido, May 29, two females; Las Animas Bay, May 8, one female; J. C. Chamberlin and V. Owen; Loreto, May 19, one young female; Cuesta Blanca, on trail to Mulege, 10-15 miles north of Loreto, May 20, two females; Angeles Bay, May 5, one Concepcion Bay, June 17, two young; Coronados Island, May 18, one female; Patos Island, April 23, one female; Isla Partida, April 22, one female, E. P. Van Duzee; San Pedro Nolasco Island, April 17, one female; San Pedro Martir Island, April 17, one; Angel de la Guarda Island, May 3, two females; Granite

Island, May 2, two females; North San Lorenzo Island, June 24, one female; Ceralbo Island, June 6, three young; San Marcos Island, June 20, one young; Santa Catalina Island, June 12; Pelican Island, July 5, three females; Tiburon Island, July 5, three females.

A species ranging from Brazil northward to Mexico, the West Indies and the Bermudas.

22. *Scytodes redempta* Chamberlin, new species

Female: Carapace yellow, more whitish above, with complicated markings in black, in part as follows: median eyes enclosed in black from which three parallel lines run back on head, the median of these longest; a black line passing caudad over lateral eyes bifurcates behind eyes, the inner branch uniting with the lateral of the three median lines; behind outer branch on each side on pars thoracica a heavier black band or area reaching to or nearly to the caudal margin; a number of disconnected black marks on each side. Sternum yellowish-white with a black spot on border adjacent to each leg, the three anterior pairs of spots more or less connected by a line of weaker dots. Legs pale yellow; each coxa with a black dot at distal end beneath; femur I with two black rings on distal half, with closely arranged, rather irregular marks and spots proximad of these and reaching to base, these black marks less and less distinct and extensive in going from first to last legs; patella black at distal end; tibia with three black rings; metatarsus dusky or streaked with black. Abdomen pale yellow or yellowish-white; dorsum marked with a series of black chevrons, continued on each side below by long oblique black lines or series of black marks; venter pale, with a few black dots, especially in area adjacent to spinnerets.

Median eyes contiguous. Abdomen moderately high and rounded, longer than wide. Length, 5 mm.

Type: Female, No. 1376, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 22, 1921, on **Isla Partida, Gulf of California**. *Paratypes*, two females, in Mus. Calif. Acad. Sci. and M. C. Z., same data.

This species resembles *S. thoracica* in general appearance but may be easily distinguished by the difference in the characteristic black pattern of the carapace and the more diffuse black markings of the legs.

23. *Scytodes pnoeitens* Chamberlin, new species

Female: Carapace pale yellow; the dark markings of pars cephalica similar to those of *S. redempta* but with the median line absent or vaguely indicated only anteriorly; lines on pars cephalica not followed behind by the solid areas present in *redempta*, these at most represented by several small dots; markings

of sides weak and less numerous, typically a marginal line with three oblique marks rising from it on each side. Sternum yellow, without marks, or with an obscure dot opposite base of each leg. Legs light, with femora irregularly dusky but not definitely annulate; the tibiæ may also have the dark pigment diffuse or it may be condensed into the usual three annuli which, however, tend to be incomplete above; metatarsi dusky beneath. Abdomen grey, typically with a series of continuous black lines running transversely across dorsum and down the sides; venter pale.

Cephalothorax rather low, dorsally well rounded behind. Legs obviously shorter and weaker than in *S. redempta*. Median eyes contiguous. Abdomen short, rounded. Length, 3 mm.

Type: Female, No. 1377, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 12, 1921, on **San Marcos Island, Gulf of California**. *Paratypes*: three females, in Mus. Calif. Acad. Sci. and M. C. Z., same data.

Distinguishable from *S. thoracica* and *S. redempta* in smaller size, shorter and weaker legs and differences in details of color pattern.

OONOPIDÆ

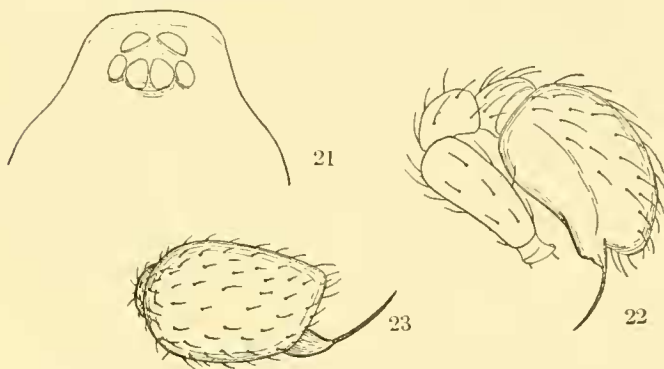
24. *Scaphiella hespera* Chamberlin, new species

Fig. 21. *Scaphiella hespera*, eyes and head, dorsal view.

Fig. 22. Right palpus of male, ectal view.

Fig. 23. Tarsus of same, dorsal view.

Male: Carapace with a distinct, though dilute, reddish cast, abdomen above yellowish brown with no reddish tinge; abdomen paler beneath, the sternum also without any red. In some cases the carapace and abdomen are both of a somewhat dusky brown color, with no red. Hairs on both carapace and abdomen short and sparse. Dorsal scutum completely covering the abdomen above and the ventral scutum also extending close to spinnerets, its caudal margin incurved. Palpus as shown in figures 22 and 23. Length, 1.9 mm.

Type: Male, No. 1113, M. C. Z., taken by R. V. Chamberlin in March, 1913, on **Santa Cruz Island, California**. *Paratypes*: Same data as type, and one male taken by J. C. Chamberlin, June 13, 1921, on the larger of the Las Galeras Islands, Gulf of California, the latter in the collection of the California Academy of Sciences.

25. *Scaphiella litoris* Chamberlin, new species

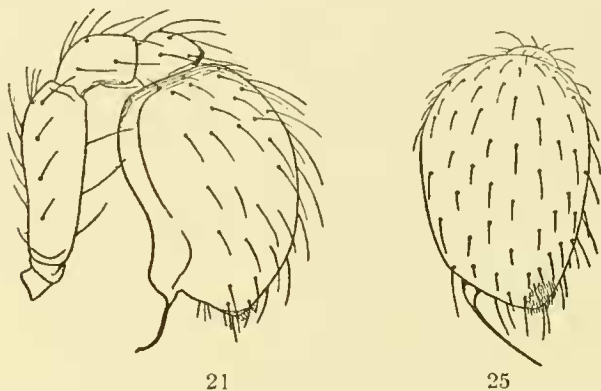


Fig. 24. *Scaphiella litoris*, right palpus of male, extal view, enlargement same as for figures 22 and 23.

Fig. 25. Tarsus of same, dorsal view.

Male: Cephalothorax and abdomen dusky yellow-brown, legs clear yellow-brown. Posterior row of eyes straight, the eyes contiguous, the medians decidedly larger than the laterals as usual. Anterior median eyes scarcely differing in size from the posterior medians. Dorsal scutum completely covering the abdomen above as usual, the ventral scutum extending caudad quite to the base of the spinnerets. In the male palpus the enlargement at base of the embolus is obviously smaller than in *S. hespera* (figs. 24 and 25). Length, 2.25 mm.

Female: In what is presumably the female of this species the coloration is essentially as in the male in cephalothorax, legs and the large scutum; the soft integument along the dorsum whitish. Posterior row of eyes somewhat procurved, the anterior medians a little larger than the posterior medians. Ventral scutum of abdomen alone present. It covers also the sides and bends in some over the dorsum. Caudal margin below deeply concave, bending caudad on the sides where the caudal margin is convex. Length, 2.8 mm.

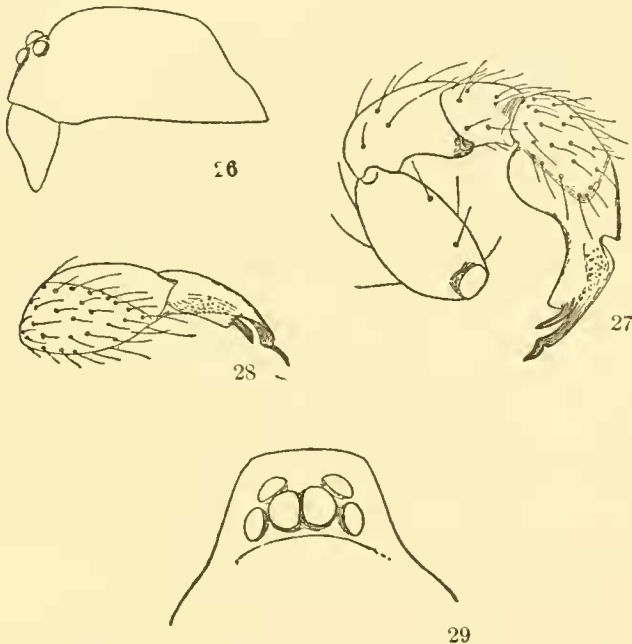
Type: Male, No. 1378, and *allotype*, female, No. 1379, Mus. Calif. Acad. Sci., taken by J. C. Chamberlin, June 14, 1921, under stones in a grove of palo verde and mesquite at mouth of a gorge, at **Puerto Escondido, Lower California**. *Paratypes*: San Marcos Island and Angeles Bay, Lower California, in Mus. Calif. Acad. Sci. and M. C. Z.

Yumates Chamberlin, new genus

Cephalothorax rising abruptly just behind eyes, dorsal line then nearly of uniform height to beginning of posterior declivity, which is steep. Clypeus much higher than the diameter of an eye. Posterior row of eyes decidedly procurved. Posterior median eyes contiguous, narrowly separated from laterals. Anterior eyes widely separated. Posterior median eyes near middle of eye group, much as in *Oonops*. Sternum, truncate between posterior coxæ. Abdomen broadly elliptic in outline as viewed from above, completely covered above by a chitinous plate, an entire ventral scutum also extending close to the spinnerets at base of which is a narrow chitinous band or inframammillary scutum as in *Gamasomorpha*; a chitinous ring or sheath about abdominal end of pedicel. Coxæ of legs moderately elongate, not globose. Tarsi much shorter than the metatarsi. Palpal organ of male with a supplementary spine below the principal spine or embolus.

Genotype—*Yumates nesophila*, new species.

26. *Yumates nesophila* Chamberlin, new species



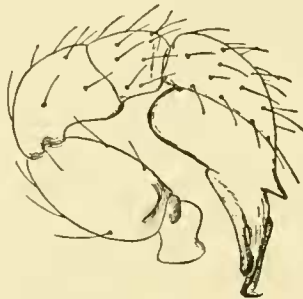
- Fig. 26. ♂ *Yumates nesophila*, cephalothorax in outline, lateral view.
 Fig. 27. Left palpus of male, mesal view.
 Fig. 28. Tarsus of same, subdorsal view.
 Fig. 29. Eyes dorsal view.

Malc: Cephalothorax and plates of abdomen yellowish-brown of a slightly reddish cast, or the red may be missing from the abdomen, or from both abdomen and cephalothorax. Carapace usually a little dusky, especially on the sides. Legs clear yellow. Carapace in profile rather abruptly elevated just behind the posterior eyes, the dorsal line convex, as high anteriorly as posteriorly adjacent to the posterior declivity (fig. 26). Posterior row of eyes conspicuously recurved; median eyes contiguous with each other and only narrowly separated from the laterals, which are smaller. Anterior eyes separated from the posterior laterals and the posterior medians by less than their radius, about equal in size to the posterior laterals. Abdomen with the usual dorsal and ventral plates and the narrow chitinous band at base of spinnerets. In the tarsus of the palpus there is a number of black points or prickles on the mesal side of the base of the distal or embolic division. For other details see figs. 27 and 28. Length, 2 mm.

Female: In coloration and general appearance similar to male excepting for the little larger size.

Type: Male, No. 1380, and *allotype*, female, No. 1381, Mus. Calif. Acad. Sci., taken by J. C. Chamberlin, May 21, 1921, in Fig Cañon, **Puerto Ballandra, Carmen Island, Gulf of California**. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; Puerto Ballandra, Carmen Island, May 21, one male; San Marcos Island, May 12, six specimens, males and females, taken under stones at mouth of a cañon; La Paz, April 11, 1921, one female.

27. *Yumates angela* Chamberlin, new species



30

Fig. 30. *Yumates angela*, left palpus of male, mesal view.

Male: Cephalothorax and scuta of abdomen dusky brown, the cephalothorax somewhat lighter from the presence of a little red. Legs clear yellowish brown. Form of cephalothorax essentially as in preceding species, the eyes

also nearly identical in arrangement and proportions excepting that the anterior eyes are somewhat larger relatively to the posterior. Scuta of abdomen as in *nesophila*.

The species is obviously different from *nesophila* in various details of the palpal organ. Thus it quite lacks the spinules or prickles on the mesal side of the base of the embolic division and also the conspicuous angle below the base of the spur, and the embolus differs in form (fig. 30). Length, 2 mm.

Type: Male, No. 1382, Mus. Calif. Acad. Sci., taken by J. C. Chamberlin, June 30, 1921, on sand spit opposite Pond Island, Angel de la Guarda Island, Gulf of California.

CAPONIIDÆ

The presence in the collections of the expedition of specimens representing three new genera in this interesting family is especially noteworthy. The known genera of the family may now be tabulated as follows:

Key to Genera of Caponiidæ

- a₁. Anterior metatarsi bearing a translucent keel along its ventral line and the tarsus with a translucent apophysis at base.
 - b₁. Anterior tarsi with paired translucent lamina below paired claws and replacing the unpaired claw. *Nops* McLeay.
 - b₂. Anterior tarsi with unpaired claw present, no such paired lamina.
 - c₁. Cephalothorax ovate; a distinct false suture dividing anterior tarsus into two principal segments of which the distal is much shorter, as in *Nops* *Orthonops* new genus.
 - c₂. Cephalothorax broader, subrotund, and more depressed; anterior tarsi with several false sutures of which the most distinct is toward the proximal end. *Tarsonops* new genus.
- a₂. Anterior metatarsi bearing no such ventral keel and the tarsus with no such apophysis at base.
 - b₁. Eyes two. *Caponina* Simon.
 - b₂. Eyes four or eight.
 - c₁. Eyes four; anterior tarsi with a false suture. *Nopsides* new genus.
 - c₂. Eyes eight; anterior tarsi with no false suture. *Caponia* Simon.

Orthonops Chamberlin, new genus

A genus agreeing essentially with *Nops* excepting that the anterior tarsi have an inferior claw strongly developed, and wholly lack the paired membranous laminae of the latter genus.

Genotype: *Orthonops oertus* new species.

28. *Orthonops overtus* Chamberlin, new species

Female: Carapace and sternum pale chestnut, the eyes narrowly bordered with black. Legs clear yellow. Abdomen dark grey.

Eyes less than their radius apart, their black bases confluent as in species of *Nops*. Tarsus of anterior legs narrow at base, strongly enlarged distad; membranous appendage at base slender; median claw well developed, geniculate; paired claws strongly curved, bearing five long teeth.

Length, 8 mm.

Type: Female, No. 1383, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 28, 1921, on **San Luis Island, Gulf of California**. One female taken under a stone near the beach.

Tarsonops Chamberlin, new genus

Differing from *Nops* in having the cephalothorax broad, almost subcircular instead of more narrowly ovate and in having the labium relatively broader. It also differs in lacking membranous laminae below claws of anterior tarsi and in having these tarsi divided by several pale lines or false sutures, which may be incomplete, instead of by a single false suture. Of these lines the most proximal in the known species is best developed and sets off a distinct basal division. The metatarsus of the anterior legs is more or less curved and also exhibits a number of pale cross lines. Paired claws of anterior tarsi with six or seven long teeth. Tarsus of palpus of female not stouter than the tibia.

Genotype: *Tarsonops sectipes* new species.

Includes also *Nops sternalis* Banks, the types of which came from San José del Cabo, Lower California, and the other new species described below.

Key to Species of Tarsonops

- a₁. Length of femur I (measured along ventral edge) more than 3.5 times the greatest thickness (dorsoventral).
 - b₁. Femur I 3.9 times longer than thick, only moderately narrowed distad (fig. 37); false sutures on middle and distal part of anterior tarsus three, the same number on metatarsus; length of body, 3 mm. *T. systematicus* new species.
 - b₂. Femur I about 3.6 times longer than thick, more strongly narrowed distad (fig. 35); false sutures on tarsus and metatarsus more numerous; length of body, 5 mm. *T. sternalis* (Banks.)
- a₂. Length of femur I only three times the greatest thickness.
 - b₁. Tarsus I conspicuously clavate, with only a single false intercalary joint or article at middle, the metatarsus also with but one (fig. 36). *T. clavis* new species.
 - b₂. Tarsus not at all, or but slightly clavate, obviously longer in proportion to width; both tarsus and metatarsus with several false intercalary articles (fig. 34). *T. sectipes* new species.

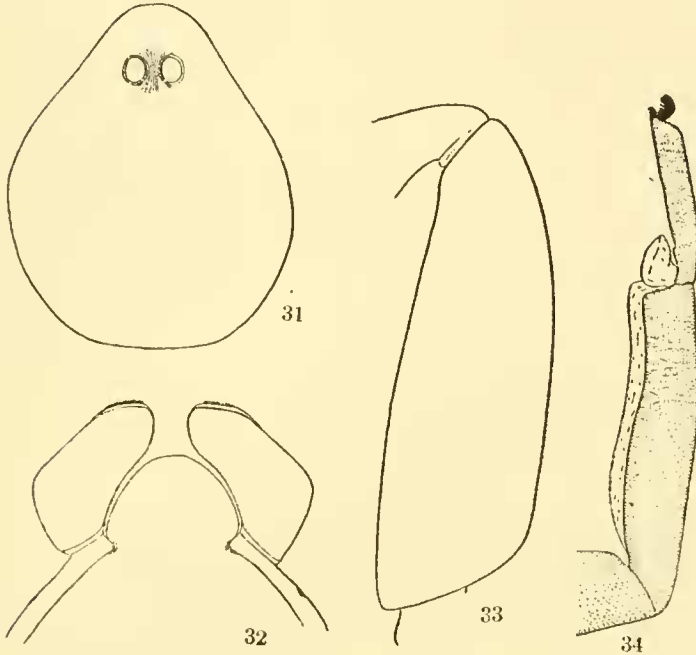
29. *Tarsonops sectipes* Chamberlin, new species

Fig. 31. *Tarsonops sectipes*, cephalothorax in outline, dorsal view.

Fig. 32. Labium and endites.

Fig. 33. Femur of leg I in outline.

Fig. 34. Metatarsus and tarsus, setæ omitted, same magnification as for figure 33.

Female: Cephalothorax and legs clear yellow. Abdomen grey. Cephalothorax proportionately broad, strongly narrowed forward but with the head not quite so abruptly set off as it is in *T. sternalis*. Eyes large, close together, (fig. 31). Labium and endites as shown in figure 32. Sternum more strongly narrowed caudad than cephalad.

Anterior legs proportionately shorter than in *sternalis*. The ratio of length to greatest thickness in metatarsus I is 5.5 to 1, whereas the corresponding ratio in *sternalis* is 7 to 1. The ratio of length to greatest thickness in femur I is 3 to 1 whereas in *sternalis* it is 3.6 to 1. The length of the tarsus in leg I of the present species equals, or but slightly exceeds, the greatest thickness of the femur, whereas it plainly exceeds this (7.5) in the type of *sternalis*. The superior claws of tarsus I have six teeth as against seven in *sternalis*. The unpaired claw has three teeth below. Length, 4.2 mm.

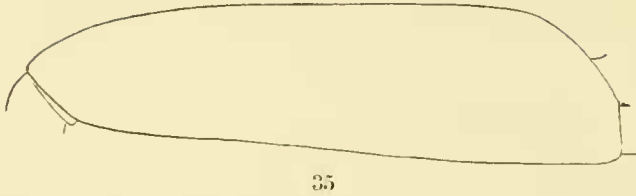


Fig. 35. *Tarsonops sternalis*, femur I in outline, same magnification as for figure 33.

Type: Female, No. 1384, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 7, 1921, on **Ceralbo Island, Gulf of California**. Two females taken at Rufo's ranch-house on west coast of the island. *Paratype* in M. C. Z., same data.

30. *Tarsonops clavis* Chamberlin, new species

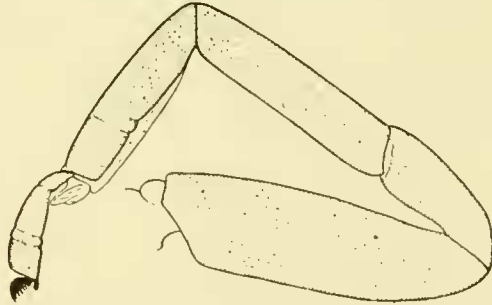


Fig. 36. *Tarsonops clavis*, first leg, setæ omitted.

Female: Coloration in general as in *sectipes*, the cephalothorax and legs being yellow and the abdomen grey. Form of the cephalothorax, labium and endites and the relations of eyes as in *sectipes*.

This species is most readily distinguished by the characters of the legs which at once appear different from the preceding species because of the more slender femora and the more clavate tarsus of the anterior legs. The tarsus shows but one pseudosegment near middle instead of several and the metatarsus shows a similar but less clearly indicated one (fig. 36). The paired claws of the anterior legs have seven long teeth instead of but six; the unpaired claw is rather smaller. Length, 3 mm.

Type: Female, No. 1385, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 8, 1921, at **Concepcion Bay, Lower California**.

31. *Tarsonops systematicus* Chamberlin, new species

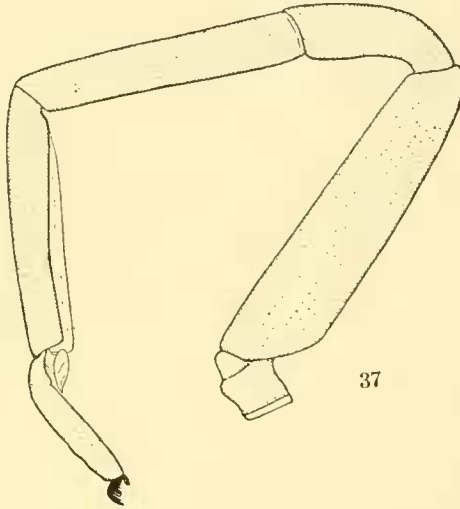


Fig. 37. *Tarsonops systematicus*, leg I.

Female: General coloration of body and general form of cephalothorax, labium and endites as in the two preceding species.

Fourth legs long and slender, much exceeding in length the first pair. The latter furnish convenient distinguishing characteristics; the paired claws bear eight long teeth of which the more basal ones are crowded; the unpaired claw apparently bears only a single tooth beneath; the tarsus in middle and distal portion shows three clearer bands or false sutures which are unusually wide, and the usual more pronounced subbasal one is present; in the metatarsus there are two similarly wide clear bands one of which in the type is partially divided below as shown in fig. 37. Length, 3 mm.

Type: Female, No. 1386, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, July 7, 1921, at **San Pedro Bay, Sonora.**

Nopsides Chamberlin, new genus

Cephalothorax ovate, narrowing evenly forward, the anterior end obtuse. Characterized by having four eyes, of which two are dark in color and have a more strongly convex lens and correspond in position with the two present in *Nops*. The other two eyes are in front of these and are pale, with the lenses flat. Endites broad distally, with the distomesal angles produced inward and nearly meeting over the apex of the labium. Tarsus of male palpus enlarged as in *Nops*. Upper margin of furrow of chelicera with a membranous appendage along most of length, the upper margin with a shorter one toward claw.

Sternum broadly elliptic in outline. Tarsi of all legs with a false suture as in Nops. The metatarsus without keel below and the first tarsal division without membranous appendage. Paired claws of anterior legs with four long teeth, those of the posterior legs with five. Unpaired claw absent or aborted, over it a membranous sheath, open along ventral edge and in lateral view appearing laminiform.

Genotype: *Nopsides ceralbona* new species.

32. *Nopsides ceralbona* Chamberlin, new species

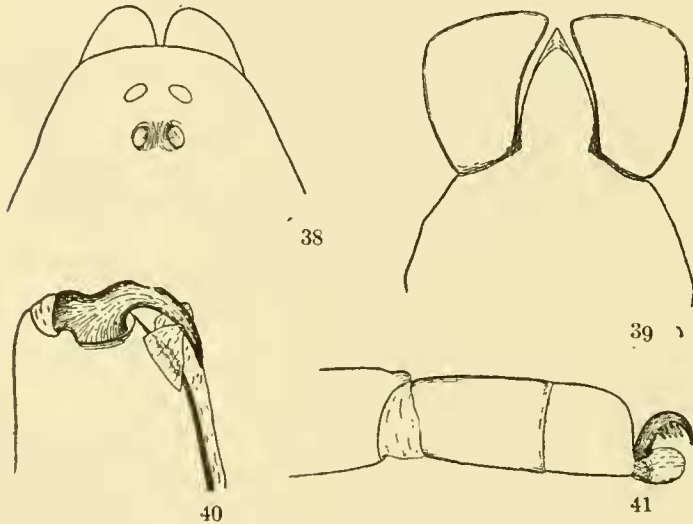


Fig. 38. *Nopsides ceralbona*, anterior end of cephalothorax showing eyes, dorsal view.

Fig. 39. Labium, endites and anterior portion of sternum in outline.

Fig. 40. Distal portion of chelicera, lower side, setæ omitted.

Fig. 41. Tarsus of leg I, anterior view, setæ omitted.

Female: Carapace and sternum yellowish-red or very dilute chestnut, the hairs sparse. Legs clearer yellow, clothed with numerous long hairs. Abdomen above dark grey, lighter beneath, densely clothed with hair.

Posterior eyes with the black basal tubercles contiguous, but the lenses well separated. Anterior eyes pale and not strongly developed, less than their diameter apart, the line between their outer edges longer than the line covered by the posterior eyes. Labium and endites as shown in fig. 39; the claw of chelicerae thickened at base. See also fig. 40. Leg IV longer than I but the latter stouter. Anterior coxæ much longer than the posterior, with coxa IV longer than III. Paired claws and median sheath as shown in fig. 41.

Length, 8 mm. Length of cephalothorax, 4.2 mm.

Type: Female, No. 1387, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 7, 1921, on Ceralbo Island, Gulf of California. Three not fully mature specimens taken. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z., same data.

DYSDERIDÆ

33. *Segestria danzantica* Chamberlin, new species

Female: Carapace dusky, deeper in color behind head. Sternum dusky over yellow. Abdomen greyish, no distinct color pattern traceable in the type in its present condition. Legs yellow, with a black band at distal end of femur, one embracing patella, and two on tibia, one of the latter being at distal end and one just proximad of middle.

Cephalothorax low, with the head proportionately broad. Anterior row of eyes recurved. Median eyes longest, contiguous, separated from laterals by a little more than their diameter. Length, 3.2 mm.

Type: Female, No. 1388, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 24, 1921, on Danzante Island, Gulf of California.

May be distinguished from *S. pacifica* in lacking true spines on the legs, in the moderately recurved anterior eye row, and in lacking the two black bands on the metatarsi.

Genus *Ariadna*

Three new species of this genus were represented in the collection. These may be separated from each other and from the two species previously known from the Gulf of California region by means of the following table.

Key to Species of Ariadna of the Gulf of California Region

FEMALES

- a₁. Median eyes separated from the posterior laterals by once and two-thirds their diameter or more; cephalothorax 4.8-6 mm. long.
- b₁. Metatarsus III with three single ventral spines proximad of the pair at distal end; tibia III with two ventral spines; median eyes once and two-thirds their diameter from laterals. *A. philosoꝑha* new species.
- b₂. Metatarsus III with two single ventral spines proximad of distal pair; tibia III with three ventral spines; median eyes twice their diameter from laterals. *A. scholastica* new species.

- a₂. Median eyes separated from the laterals by only once and a fourth their diameter or less; cephalothorax only 4 mm. or less in length.
- b₁. Tibia II with a spine on anterior face near middle and with only one ventral spine under anterior border *A. pragmatica* new species.
- b₂. Tibia II with no spine on anterior face; usually with two ventral spines under anterior border.
- c₁. Tibia III normally with only a single ventral spine *A. mexicana* Banks.
- c₂. Tibia III normally with two or three ventral spines, only sporadic specimens with but one *A. bicolor* (Hentz)

34. *Ariadna bicolor* Hentz

Pylarus bicolor Hentz, Jour. Bost. Soc. Nat. Hist., 1842, IV, p. 225, pl. 8, figs. 3, 4.

Pylarus pumilis Hentz, *ibid.* p. 226, pl. 8, fig. 5.

Ariadna bicolor Emerton, Trans. Conn. Acad. Sci., 1889, VIII, p. 201, pl. 8, fig. 3.

Ariadna rubella Keyserling, Verh. zool. bot. Ges. Wien, 1877, XXVII, p. 229.

Only females are represented in the collections of the expedition, making it difficult in many cases to be sure that all specimens here listed really belong to one species. However, they cannot be separated from the forms of *A. bicolor* occurring in the southern United States on the basis of any characters thus far indicated.

In females of *A. bicolor* the median eyes are separated from the posterior laterals by a distance from once and a fourth to seven eighths their diameter. The distance of separation of these eyes in all the specimens here listed lies between these limits. In regard to *A. mexicana*, from Chuparosa, Lower California, Mr. Banks states: "The median eyes are much more than their diameter (farther than in *A. bicolor*) from the slightly larger side eyes." However, micrometer measurements of the two existing types now in the M. C. Z. collection, shows the distance to be only once and a fourth the diameter of a median eye, the same as in many specimens of *bicolor*.

The ventral spines of leg III in *bicolor* in most cases are two in number, one distad of and one proximad of middle, with the latter somewhat shorter. However, an additional spine is occasionally present at distal end and, in addition,

one may occur at proximal end. On the other hand, there may be only one spine present, as appears to be usual when a leg is regenerated. I have seen sporadic specimens of *bicolor*, in which only a single spine is present on both sides, from Massachusetts, New York, Indiana and North Carolina. Since, however, only a single spine is present on tibia II on both sides of both specimens of *A. mexicana*, this number is probably normal in that form.

In view of the fact that the specimens are too few to indicate the range of variations and that most of those noted can be matched in individual specimens of *bicolor*, it seems best merely to indicate the variations noted as follows.

FORM A

Median eyes separated from laterals by their diameter or slightly more. Tibia II with one pair of ventral spines at distal end and in addition three single spines under the posterior border; tibia III with three seriate spines below, of these the most proximal is well removed from the base.

Length, 7 mm.; cephalothorax, 3.5 mm., tibia + patella IV, 3 mm.; tibia + patella I, 2.9 mm.

Locality: Guaymas, April 15, one female.

FORM B.

Median eyes separated from laterals by their diameter or less (seven-eighths). Tibia II with two pairs of ventral spines and two single ones behind these under the caudal border; tibia III with two ventral spines, one distad of middle and one proximad of it; metatarsus and tarsus of leg I dark, but not so the tibia.

Length, 7.2 mm.; cephalothorax, 3.2 mm.; tibia + patella IV, 2.8 mm.; tibia + patella I, 2.25 mm.

Localities: Santa Catalina Island, June 12, two females, taken by E. P. Van Duzee; Ildefonso Island, May 17, one female.

FORM C.

Median eyes their diameter from the laterals. Right tibia I in the single specimen with a spine on anterior side which is lacking on the left leg; tibia II with two pairs of ventral spines and in addition with two single ones under caudal border; tibia III with three seriate ventral spines, the proximal one nearer to base than to median spine.

Length, 8 mm.; cephalothorax, 3.8 mm.; tibia + patella IV, 3 mm.

Locality. Tortuga Island, June 22, one female.

FORM D.

Median eyes once and a fourth their diameter from the laterals. Tibia II with two pairs of ventral spines and two single additional ones under the posterior border; tibia III with two seriate spines beneath or with a small third one at distal end. First legs darkened only distad of patella.

Length, 10 mm.; cephalothorax, 4 mm.; tibia + patella IV, 3.5 mm.; tibia + patella I, 3.25 mm.

Localities: San Diego Island, May 27, two females; Santa Cruz Island, May 27, one female.

The typical form of this species is widespread in the eastern and southeastern sections of the United States.

35. *Ariadna pragmatica* Chamberlin, new species

Female: Carapace chestnut, in part dusky; sternum chestnut, darker at the sides; legs yellowish, the first pair darkened; abdomen purplish grey or brownish above, grey laterally and beneath.

Median eyes forming a straight series, with the posterior laterals; separated from the latter by once and a fourth their diameter. Spines of leg I as usual. Tibia II with a pair of ventral spines at distal end and three seriate spines in addition under the posterior border, tibia II also with a small spine near middle on anterior side; right tibia III in type with four ventral spines, the left, which is apparently regenerated, with only one. Metatarsus II with a pair and two single ventral spines as usual. Length, 7.5 mm.; cephalothorax, 3.6 mm.; tibia + patella IV, 3.2 mm.; tibia + patella I, 3 mm.

Type: Female, No. 1389, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 25, 1921, at Tepoca Bay, Sonora.

36. *Ariadna philosopha* Chamberlin, new species

Female: The carapace varies from yellowish-brown to mahogany or nearly black in older individuals; sternum from yellow to chestnut with sides typically blacker, leaving a light median longitudinal stripe; legs from yellow to light brown with the first two pairs darker, the first pair often nearly black, the hairs of these legs on tibia and metatarsus longer and rather denser. Abdomen purplish brown.

Median eyes circular, contiguous, and forming with the posterior median eyes a slightly recurved row, decidedly farther from the laterals than in *bicolor*, the distance being typically close to once and two-thirds their diameter. Tibia I with four pairs of spines beneath, metatarsus with seven or eight pairs; tibia II with two spines under anterior border, four under the posterior; tibia III with two seriate spines beneath and metatarsus III with three seriate spines and a pair at distal end beneath. Length, up to 15 mm.; cephalothorax, 6 mm.; tibia + patella IV, 5 mm.; tibia + patella I, 4.5 mm.

Type: Female, No. 1390, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 22, 1921, on **Isla Partida, Gulf of California**. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z., five females taken "in tubular, thickly woven webs in decaying *Cereus*" with the type.

This species differs from *A. bicolor* in the decidedly greater separation of the lateral eyes from the medians. It differs from *A. mexicana* in having tibia III armed below with two seriate spines instead of but one, and in having metatarsus II armed below with three spines proximad of the distal pair instead of but two.

37. *Ariadna scholastica* Chamberlin, new species

Female: Carapace chestnut, darkened in head region; sternum chestnut in middle, blackish over sides; legs brown, those of the first pair darkened distad of the coxæ. Abdomen purplish brown both above and below.

Posterior median eyes forming a recurved row with the posterior laterals, usually touching each other at one point but not pressed together, separated from the laterals by about twice their diameter. Spines of first legs as usual. Tibia III with three spines beneath, one near base, one proximad of middle, and one smaller one at distal end; metatarsus III with two seriate spines proximad of the pair at the distal end. Length, 11 mm.; cephalothorax, 4.8 mm.; tibia + patella IV, 4 mm.

Type: Female, No. 1391, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 23, 1921, on **Patos Island, Gulf of California**.

Citharoceps Chamberlin, new genus

Median eyes forming a recurved line with the posterior laterals. Clypeus not exceeding the diameter of an eye. Claw of chelicera short; lower margin of furrow unarmed, the upper margin with three teeth not differing much in size. Anterior legs more robust than the posterior, the tibiæ and metatarsi strongly spined beneath. Each side of pars cephalica strongly vertically striate. Femur of leg 8 with some small tubercles on the anterior (inner) face toward base.

Genotype: *Citharoceps fidicina* new species.

This genus agrees in general with *Ariadna* excepting in the possession of the stridulating apparatus in the character of which it is unique.

38. *Citharoceps fidicina* Chamberlin, new species

Female: Carapace yellowish-brown; sternum and legs yellow; abdomen somewhat greyish-brown, darker, more blackish, along median dorsal line, paler beneath.

Clypeus low, about equal to the diameter of an anterior lateral eye. Median eyes contiguous, their diameter, or slightly more, from the posterior laterals with which they form a distinctly recurved line; lateral eyes on each side contiguous. Striæ on sides of head very distinct, the band extending back to pars thoracica, the striæ becoming shorter and finer toward caudal end of series. Tibia I with four pairs of spines beneath and metatarsus I also with four pairs beneath; the fourth legs wholly lack spines excepting that at distal end of the tibia, beneath there are two or three setiform spines contiguous with each other at the base. Length, 6 mm.

Type: Female, No. 1392, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 7, 1921, at **Ensenada, Lower California**. *Paratype* in M. C. Z., same data.

PRODIDOMIDÆ

This is a small and apparently primitive family of variously appreciated affinities. The material from the islands of the Gulf of California embraces representatives of a new genus which may be distinguished from the previously known genera by means of the following key.

Key to Genera of Prodidomidæ

- a₁. Upper spinnerets much stouter than the inferior.
 - b₁. Upper spinnerets long and cylindric. *Eleleis* Simon.
 - b₂. Upper spinnerets short, the basal article oblique at end and the apical article compressed and ovate. *Prodidomus* Hentz.
- a₂. Upper spinnerets much smaller and more slender than the inferior.
 - b₁. Lower spinnerets remote from the others and widely separated from each other; apical article of upper spinnerets small and acuminate. *Zimiris* Simon
 - b₂. Lower spinnerets close to the others and contiguous with each other or nearly so. *Pericuris* new genus.

Pericuris Chamberlin, new genus

Stria of thorax slight. Eyes of the usual general conformation; anterior median eyes somewhat smaller than the laterals, narrowly separated from each other, contiguous with the laterals; anterior and the posterior laterals and the posterior median of each side typically contiguous, the posterior medians distinctly separated from each other. Sternum broadly elliptic.

Trochanter of legs elongate, subequal to coxa. Characterized in having the lower spinnerets proportionately thick, contiguous with each other, and bearing long, penicillate tubules. Upper spinnerets very small in comparison, with the second joint short.

Genotype: *Pericuris insularis* new species.

39. *Pericuris insularis* Chamberlin, new species

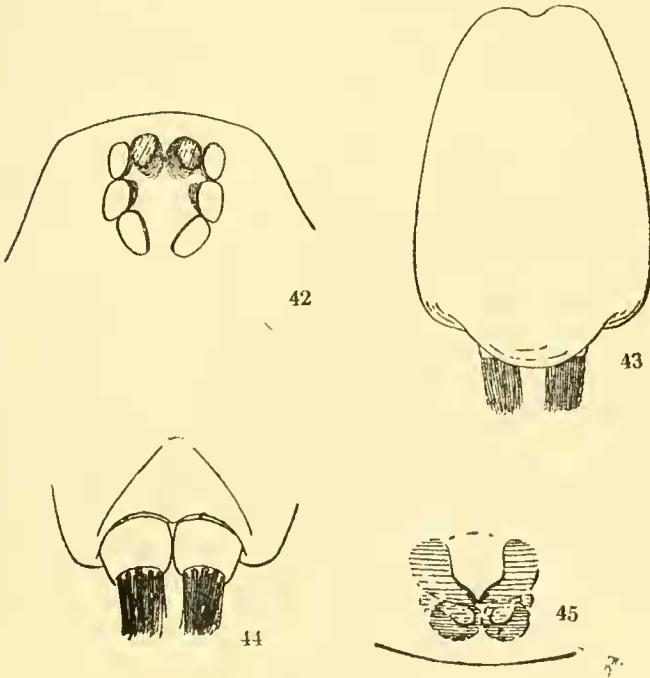


Fig. 42. *Pericuris insularis*, eyes of paratype from Ceralbo Island.

Fig. 43. Abdomen of same in outline, dorsal view.

Fig. 44. Spinnerets of same.

Fig. 45. Epigynum of holotype from Ballena Island.

Female: Cephalothorax and legs light yellow; abdomen light grey, densely clothed with appressed hair.

Eye area slightly wider than long (about as 12:11); anterior row of eyes as seen from above a little recurved; anterior median eyes circular, with their black bases contiguous, the lenses proper separated from each other by about their radius; the other eyes forming a V-shaped outline, with the angle open behind, the three on each side being contiguous but the posterior medians distinctly separated from each other, subelliptic in outline (fig. 42).

.. Tarsus of palpus about equal in length to the metatarsus, somewhat clavately enlarged from base distad; tarsus of anterior legs shorter than the metatarsus, narrowed at distal end; anterior legs without spines; third legs with tibiæ and metatarsi strongly spined below and laterally. Fourth legs missing from holotype. Abdomen oblong in outline as seen from above, a little wider behind than in front; spinnerets thicker than long, contiguous, bearing numerous long tubules which exceed the spinneret in length (fig. 44). Length, 4 mm.

Type: Female, No. 1393, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 9, 1921, on **Ballena Island, Gulf of California**. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z., Ceralbo Island, June 7, 1921, one immature individual collected on west coast at "Rufo's ranch-house"; San Esteban Island, April 19, 1921, one female.

GNAPHOSIDÆ

40. *Herpyllus validus* (Banks)

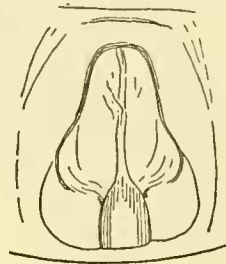
Prothesima valida Banks, Trans. Amer. Ent. Soc., 1893, XXIII, page 62.

Herpyllus validus Banks, Proc. Cal. Acad. Sci., 1904, ser. 3, III, p. 337, pl. 39, figs. 25, 29.

Localities: Nogales, Arizona, April 4, four females collected by E. P. Van Duzee; San Pedro Martir Island, April 19, one adult and two immature females.

This species was previously known only from California.

41. *Sergiolus atomisticus* Chamberlin, new species



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Fig. 46. *Sergiolus atomisticus*, epigynum.

Female: Carpace, sternum and legs dark mahogany colored; abdomen dark, with a white mark at base, wide anteriorly and furcate posteriorly, and

a white transverse mark in front of the spinnerets; somewhat paler in the mid-ventral region.

Posterior row of eyes only slightly recurved, its eyes essentially equal in size; anterior lateral eyes much larger than the posterior laterals, their diameters comparing nearly as 7:5; those on each side separated by a distance fully equal to the diameter of the former; anterior median eyes equal to the posterior laterals; separated from each other by their radius; area of median eyes wider behind than in front. Lower margin of furrow of chelicera wholly unarmed. Metatarsus I and metatarsus II each with a single ventral spine at base. Tibiæ I and II with two seriate spines under the anterior border; tibia II with a median dorsal spine. Epigynum, fig. 46.

Length, 6.2 mm.

Type: Female, No. 1394, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, in the **Gulf of California Region**, the precise locality not certain but possibly Espiritu Santo Island.

Related to *S. stella* Chamberlin of Texas in spining of legs and arrangement of eyes, but very different in the form of the epigynum.

Pæcilochroa sp.

An immature specimen of uncertain species.

Locality: Agua Verde Bay, May 26.

Genus Nodocion Chamberlin

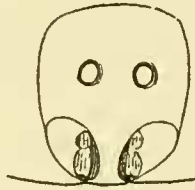
Representatives of this genus have thus far been found only in California and the region represented by the present collection. The known species may be separated as follows.

Key to Species of Nodocion

- a₁. Tibiæ I and II with no spines.
 - b₁. Anterior median eyes smaller than the laterals; metatarsus I with one or two spines at base.
 - c₁. Anterior median eyes two-thirds the diameter of the laterals, their diameter apart *N. iugans* Chamberlin(♂)
 - c₂. Anterior median eyes five-sixths the diameter of the laterals, less than their radius apart *N. barbaranus* Chamberlin
 - b₂. Anterior median eyes as large as the laterals; metatarsus I with no spine at base *N. syntheticus* new species.
- a₂. Tibiæ I and II with one or more ventral spines; (anterior median eyes as large as or larger than the laterals.)
 - b₁. Both tibia III and tibia IV without a median dorsal spine; area of median eyes as wide behind as in front *N. mateonus* Chamberlin.

- b₂. Tibia III, or both tibia III and tibia IV with a median dorsal spine at base; area of median eyes wider in front than behind.
- c₁. Both tibia III and tibia IV with a median dorsal spine; posterior median eyes decidedly farther from the laterals than from each other. *N. realisticus* new species.
- c₂. Tibia IV with no median dorsal spine; posterior median eyes rather nearer to the laterals than to each other.
- d₁. Anterior median eyes much larger than the laterals (their respective diameters to each other as 8:5); tibia I with three spines and II with four spines beneath. *N. eclecticus* new species.
- d₂. Anterior median eyes but little larger than the laterals; tibiae I and II with two seriate ventral spines. *N. pragmaticus* new species.

42. *Nodocion pragmaticus* Chamberlin, new species



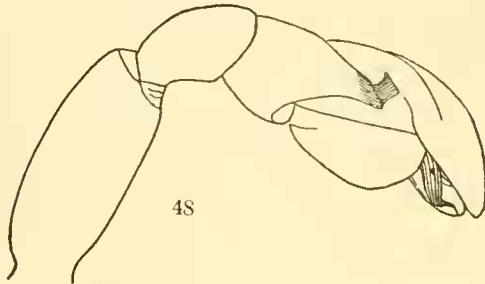
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Fig. 47. *Nodocion pragmaticus*, epigynum, probably not quite mature.

Female: Carapace brown, the sternum and legs with more yellow; abdomen grey.

Posterior row of eyes slightly procurved; medians a little oblique, nearly two-thirds their longer diameter apart, a little nearer to the somewhat smaller lateral eyes; anterior median eyes somewhat less than their radius apart, slightly larger than the laterals; area of median eyes decidedly wider in front than behind (nearly 11:9); of same width in front as the length or very near it. Upper margin of furrow of chelicera with a low, rounded elevation but with no true teeth, the lower margin unarmed as usual. Metatarsus I with one spine at base; metatarsus II with two spines at base. Tibiæ I and II with two seriate spines under the anterior border, one of these submedian and the other apical; Tibia III with a median dorsal spine, tibia IV with none. Epigynum (probably not quite mature), fig. 47. Length, 8 mm.

Type: Female, No. 1395, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 3, 1921, at **Palm Cañon, Angel de la Guarda Island, Gulf of California**. *Paratype*: San Pedro Nolasco Island, April 17, 1921, one immature female, probably of this species.

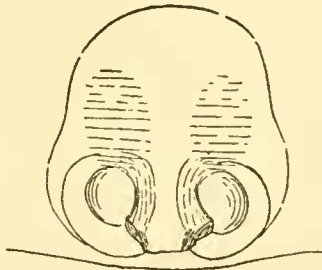
43. *Nodocion eclecticus* Chamberlin, new speciesFig. 48. *Nodocion eclecticus*, right palpus of male, ectal view.

Male: Carapace and legs light brown; abdomen dark grey with a reddish brown mark at base above.

Posterior row of eyes nearly straight; median eyes somewhat angled, about four-sevenths their diameter apart, a little nearer to the laterals; anterior median eyes a little more than their radius apart, much larger than the laterals (diameters about 8:5); area of median eyes wider in front than behind (19:17) and equal in length and width.

Furrow of chelicera unarmed either along upper or along lower margin. Tibia I with three spines beneath, a pair at distal end and a single one toward middle; tibia II with two pairs of spines beneath, and metatarsus II with a single pair at base; tibia III with a single dorsal spine at base, this a little to one side of the median line; tibia IV with no median dorsal spine. Palpus, fig. 48. Length, 5.2 mm.

Type: Male, No. 1396, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 14, 1921, at Guaymas, Sonora. One male taken under bark of mesquite.

44. *Nodocion realisticus* Chamberlin, new speciesFig. 49. *Nodocion realisticus*, epigynum.

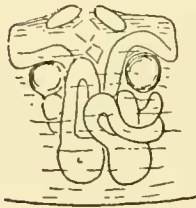
Female: Cephalothorax and legs pale chestnut; abdomen grey; spinnerets yellow.

Posterior row of eyes a little procurved; medians oblique, about their radius apart, more than their diameter from the laterals which are slightly less in diameter (8:9); anterior median eyes their radius from each other, their diameter a little larger than that of the laterals (9:8); area of median eyes wider in front than behind (10:9) and longer than wide in front (23:20).

Upper margin of furrow of chelicera with a moderately large tooth forming an angle, the lower margin wholly unarmed. Metatarsi I and II with a single spine at base beneath; tibiae I and II with two seriate spines beneath under the anterior border, one being at distal end and one near middle; tibiae III and IV with a median dorsal spine at base. Epigynum, fig. 49. Length, 9 mm.

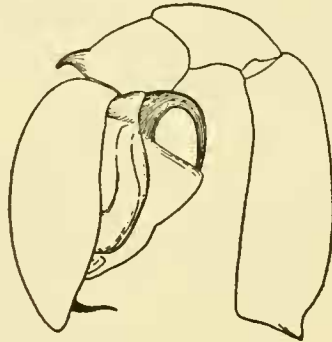
Type: Female, No. 1397, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 14, 1921, at Mulegé, Lower California. *Paratypes:* San Josef Island, June 10, 1921, a freshly moulted female, apparently the same species though smaller than the type and with eyes and carapace in present condition somewhat variant.

45. *Nodocion syntheticus* Chamberlin, new species



50

Fig. 50. *Nodocion syntheticus*, epigynum.



51

Fig. 51. Left palpus of male, ectal view.

Female: Carapace, sternum and legs yellowish or brownish-yellow; abdomen light grey, without markings.

Posterior row of eyes a little procurved; the median eyes large and oblique only one-fourth, or less, their longer diameter apart and about an equal distance from the laterals; anterior median eyes equal in size to the laterals, separated from each other by nearly their radius; lateral eyes on each side their radius or less apart.

Lower margin of furrow of chelicera wholly smooth, the upper margin with two small but distinct teeth. Metatarsus I unarmed; metatarsus II with a pair of spines at base. Tibia I and II wholly unarmed; tibia III and IV with a median dorsal spine at base. Epigynum, fig. 50. Length, 3.5 mm.

Male: Palpus as shown in fig. 51. Length, 3.5 mm.

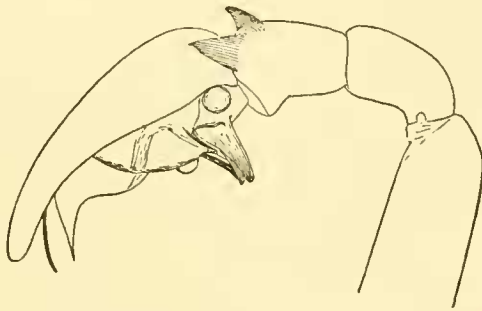
Type: Female, No. 1398, and *allotype*, male, No. 1399, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 21, 1921, on **Isla Raza, Gulf of California**, under stones. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z., five females same data as types.

Nodocion sp.

Young specimens which cannot be placed in their species.

Localities: Guaymas, April 14, one; Tiburon Island, July 3, three.

46. *Megamyrmecon asceticum* Chamberlin, new species



52

Fig. 52. *Megamyrmecon asceticum*, left palpus of male, ectal view.

Megamyrmecon californicum Banks (in part), Proc. Cal. Acad. Sci. 1898, ser. 3, I, p. 220.

Male: Carapace, sternum and legs light brown; abdomen grey, with the usual lighter mark at base above.

Posterior row of eyes of the typical form; the medians oblong and very oblique to each other, separated from each other by about half their lesser diameter and from the round laterals by nearly that diameter; eyes of anterior row subequal to each other.

Tibiae I and II with three seriate ventral spines, one being at base, one at middle and one at apex; metatarsi I and II with a pair of ventral spines at base; tibia III and apparently also tibia IV with a single median dorsal spine at base, but IV may possibly have had also a second dorsal spine. Palpus as shown in fig. 52. Length, 6.5 mm.

Type: Male, No. 1151, M. C. Z., collected at **La Chuparosa, Lower California**. *Paratypes* in M. C. Z. and Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, at Puerto Escondido, May 29, 1921, two immature females, probably of this species; Tortuga Island, May 11, 1921, one immature female; Ballena Island, June 9, 1921, one immature female.

In view of the occurrence of several species of *Megamyrmecon*, the identity of Simon's species *californicum* becomes less certain. It was based upon an immature female. It differs from the present species in having under the anterior tibiae one pair and a single spine instead of three seriate ones, and in the form and closer approximation of the posterior median eyes. It was described from southern California.

47. *Megamyrmecon pessimisticum* Chamberlin, new species



53

Fig. 53. *Megamyrmecon pessimisticum*, right palpus of male, ectal view.

Male: Carapace, sternum and legs fulvous; abdomen grey.

Eyes related essentially as in *naturalisticum*, but the posterior medians somewhat more elongate and oblique. Spining of the legs as in *naturalisticum* ex-

cepting that on the anterior face of tibia I there is only a single spine instead of two. The palpus differs from that species in the form of the tibial apophyses and particularly in the details of the bulb as shown in fig. 53.

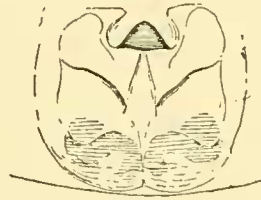
A smaller form, the length being 5.2 mm.

Type: Male, No. 1400, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 6, 1921, at Angeles Bay, Lower California.

48. *Megamyrmecon naturalisticum* Chamberlin, new species



54



55

Fig. 54. *Megamyrmecon naturalisticum*, right palpus of male, ectal view.

Fig. 55. Epigynum of female.

Male: Carapace, sternum and legs yellowish-brown to nearly clear yellow; abdomen grey or dark grey, with a median dorsal reddish-yellow mark at anterior end above.

♀ Posterior row of eyes semicircular as usual; median eyes subcircular or somewhat quadrate and somewhat larger than the laterals, separated from each other by a little less than their radius and from the laterals by about two-thirds their diameter; anterior row of eyes strongly procurved; medians circular, decidedly larger than the laterals, separated from each other by less than their radius. Width of clypeus about equal to the diameter of an anterior lateral eye.

Tibia I and II with three pairs of spines beneath and with two spines on anterior face; metatarsi I and II with a pair of ventral spines at base and a single spine near middle; Tibia III with one median dorsal spine; tibia IV with two median dorsal spines. Palpus, fig. 54

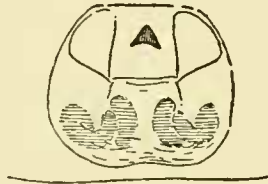
Length, 6 mm.; tibia + patella IV, 4 mm.

Female: Color as in the male, but abdomen without the lighter basal area. A young female has the abdomen lighter, somewhat yellowish-grey.

Posterior median eyes smaller, separated by more than their radius, and from the laterals by nearly their diameter. Tibia I and II armed beneath with three pairs of spines as in the male, but on the anterior face of tibia I there is only one spine, this small and toward base, and on tibia II there is also one spine but this is toward the distal end; metatarsi I and II with three spines as in the male; tibiae III and IV with a median dorsal spine as in the male. Epigynum, fig. 55.

Type: Male, No. 1401, and *allotype*, female, No. 1402, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 28, 1921, on **San Luis Island, Gulf of California**. *Paratype* in M. C. Z., one male, and two immature females, same data.

49. *Megamyrmecon nesiotes* Chamberlin, new species



56

Fig. 56. *Megamyrmecon nesiotes*, epigynum.

Female: Carapace, sternum and legs yellow, abdomen light grey.

Posterior row of eyes strongly procurved, the eyes subequal and nearly equidistant, the separation in each case being by about half of the longer diameter; anterior row of eyes also strongly procurved, the medians round, decidedly larger than the laterals, separated by nearly their radius. Clypeus somewhat narrower than the diameter of an anterior lateral eye. Tibia I armed with two pairs of spines beneath; metatarsus I with a single spine beneath at base; tibia II below with two pairs of spines as in I and in addition with a single spine at distal end; metatarsus II with a single spine at base beneath; tibia IV with two spines on median dorsal line; tibia III with one. All tarsi scopulate; anterior metatarsi scopulate to their bases, the posterior metatarsi only distally. Epigynum, fig. 56. Length, 7 mm.

Type: Female, No. 1403, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 24, 1921, on **Danzante Island, Gulf of California**. *Paratype* in M. C. Z., San Diego Island, June 11, 1921, one female.

Differs from *M. californicum* in having the eyes of the posterior row equidistant instead of having the medians much nearer to each other than to the laterals, in the spining

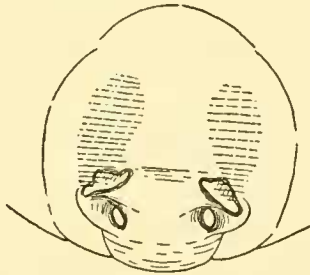
of the anterior legs, and in having two dorsal spines on tibia IV instead of only one.

Megamyrmecon sp.

Immature specimens of uncertain species were taken at the localities indicated below.

Localities: Isla Partida, June 25, one; San Diego Island, May 27, one; Isla Raza, April 21, one; San Pedro Nolasco Island, April 16, one, taken by E. P. Van Duzee.

50. *Cesonia classica* Chamberlin, new species



57

Fig. 57. *Cesonia classica*, epigynum.

Female: Carapace reddish-yellow, with a black stripe along upper border of each side and the lateral margins also black; sternum and legs yellow; abdomen yellowish, marked on the dorsum with three longitudinal black stripes of which the lateral ones extend to the spinnerets; the median furcate at its caudal end a little distance in front of the spinnerets, one branch running to the lateral stripe on each side; venter pale, greyish yellow.

Posterior row of eyes straight or scarcely recurved; median eyes less than their diameter from the laterals, and once and a half their diameter from each other; anterior median eyes slightly smaller than the laterals; nearly four-fifths their diameter apart; area of median eyes wider behind than in front in the ratio 5:4.

Tibiae I and II with two seriate spines under the anterior border; metatarsi I and II with a single spine at base. Epigynum, fig. 57. Length, 5 mm.

Type: Female, No. 1404, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 25, 1921, on **Monserate Island, Gulf of California**. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; Guaymas, April 9, one female, E. P. Van Duzee; Tepoca Bay, April 25, 1921, one immature female; Ensenada,

Lower California, April 7, one immature female; Santa Inez Island, May 13, one female; Sal si Puedes Island, May 9, two immature females.

In color pattern this species resembles *C. lugubris* (Cambridge), but in the latter, of which *C. trivittata* Banks appears to be a synonym, the median stripe of the abdomen has its caudal end not furcate or when with branches the latter run straight caudad to the spinnerets, not outward to the lateral stripes. In addition the epigyna are very different.

51. *Gnaphosa synthetica* Chamberlin, new species

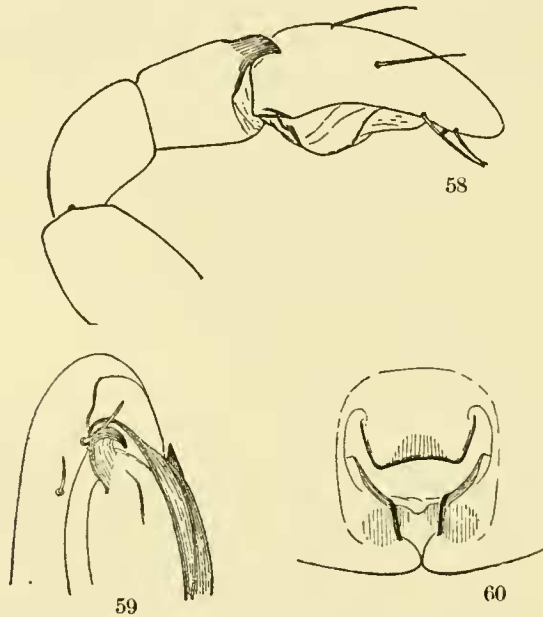


Fig. 58. *Gnaphosa synthetica*, right palpus of male, ectal view.

Fig. 59. Distal portion of palpal organ of male, apical spines omitted, ventral view.

Fig. 60. Epigynum.

Female: Carapace light, slightly reddish brown, darker over anterior part of head; sternum more chestnut; legs yellowish; abdomen brownish-grey, a darker median longitudinal mark along the dorsum.

Posterior row of eyes recurved; medians somewhat broadly oblong or broadly obovate, oblique, separated from each other by nearly their diameter, equal in size to the laterals or but little longer; anterior median eyes smaller than the laterals; anterior lateral eyes larger than the posterior laterals; lateral

eyes on each side separated from each other by nearly twice the diameter of the posterior one.

Tibiæ I and II unspined, or, rarely, with one spine at distal end; metatarsus I with a single spine at base; metatarsus II with one spine or with two spines at base; tibiæ III and IV both without any median dorsal spine. Epigynum, fig. 60. Length, 9 mm.

Male: The allotype has the cephalothorax lighter, more yellowish, than in the female. Eyes as in the female but rather closer, the separation of the laterals and especially the separation of the posterior medians from the laterals being relatively less. Palpus, figs. 58 and 59. Length, 6 mm.

Type: Female, No. 1405, and *allotype*, male, No. 1406, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 28, 1921, on San Luis Island, Gulf of California, taken under a piece of driftwood on the beach. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z., one female same data as type; Tepoca Bay, April 25, one female; southern end of Tiburon Island, July 5, one immature female.

This species in the spining of the legs and in general appearance approaches *G. hirsutipes* Banks, but differs in the somewhat larger size, in the smaller and more widely separated posterior median eyes, and in the details of the epigynum and palpus.

52. *Zelotes monachus* Chamberlin, new species



61

Fig. 61. *Zelotes monachus*, right palpus of male, ectal view.

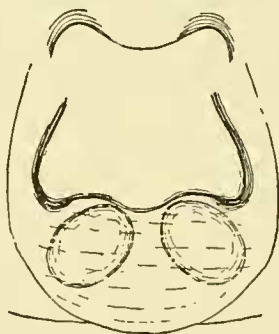
Male: Carapace somewhat chocolate-colored, the sternum a lighter brown; legs dusky brown or blackish; abdomen dark grey or blackish above, the venter paler.

Posterior row of eyes straight; the median eyes not elongate, larger than the laterals, separated from each other by their radius, or a little more, and nearly the same distance from the laterals; anterior median eyes small, their diameter to that of the laterals as 4.5:7, separated from each other by somewhat more than their diameter; area of median eyes longer than wide, and a little wider behind than in front (14:13).

Upper margin of furrow of chelicera with four teeth, of which the second from the proximal end is much the largest; lower margin with two teeth. Metatarsi I and II with a pair of spines at base; tibiae I and II unarmed. Palpus, fig. 61. Length, 6 mm.

Type: Male, No. 1407, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 5, 1921, at **Angeles Bay, Lower California**. One adult and one immature male "found running on sand on beach before the advancing tide."

53. *Zelotes catholicus* Chamberlin, new species



62

Fig. 62. *Zelotes catholicus*, epigynum.

Female: Carapace, sternum and legs light chestnut; abdomen dorsally slightly yellowish-white, with a broad dusky band over posterior three-fourths of length.

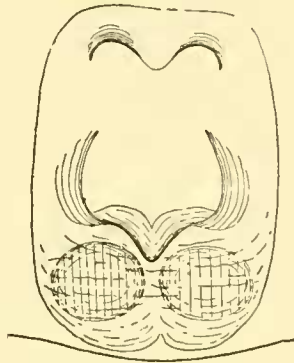
Posterior row of eyes slightly procurved; median eyes somewhat oblong, oblique, separated from each other by one-half their longer diameter, a little farther from the laterals; anterior median eyes decidedly smaller than the laterals, their diameters comparing as 3:4, slightly more than their radius from each other; area of median eyes as wide in front as behind and equal in length and breadth.

Upper margin of the furrow of the chelicera with five teeth, the lower with two. Tibiae I and II unarmed beneath; metatarsus I with no spines; metatarsus II with a pair of ventral spines at base. Epigynum, fig. 62. Length, 5 mm.

Type: Female, No. 1408, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 30, 1921, on "Isla Partida" of **Espiritu Santo Island, Gulf of California.**

This species somewhat resembles *Z. funestus* (Keyserling), a common Californian species, but is decidedly different in the form of the epigynum and is much lighter in general color.

54. *Zelotes calvanisticus* Chamberlin, new species



63

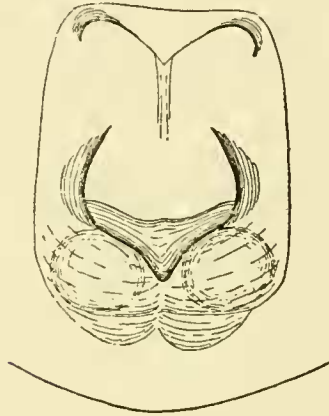
Fig. 63. *Zelotes calvanisticus*, epigynum.

Female: Carapace blackish over chestnut; sternum a clearer chestnut; legs blackish; abdomen dusky brown above, grey beneath, without markings.

Posterior row of eyes straight; eyes equidistant, each two being separated by about their radius; median eyes more or less angled; anterior median eyes greatly exceeded in size by the laterals, the diameters comparing as 5:8, separated from each other by their diameter; area of median eyes wider behind than in front in about ratio 5:4. Upper margin of furrow of chelicera with four teeth, the lower with two; metatarsus I unarmed; metatarsus II with a pair of spines at base; tibiae I and II unarmed. Epigynum, fig 63. Length, 7 mm.

Type: Female, No. 1409, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 9, 1921, on **Ballena Island, Gulf of California.** One adult and one immature female.

Similar to *catholicus* in spining of legs, but larger and much darker, with four teeth on upper margin of chelicera instead of five, and with eyes and epigynum different.

55. *Zelotes protestans* Chamberlin, new species

64

Fig. 64. *Zelotes protestans*, epigynum.

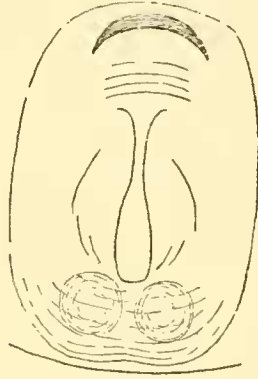
Female: Carapace and legs mahogany or blackish; sternum chestnut; abdomen dark grey or blackish above, light grey beneath.

Posterior row of eyes straight; median eyes elliptic and oblique, about half their longer diameter apart, obviously farther from the laterals; anterior median eyes about four-fifths their diameter apart, their diameter five-eighths that of the laterals.

Upper margin of furrow of chelicera with three well-formed teeth and a slight angle proximad of these; lower margin with two small teeth. Metatarsus I unarmed; metatarsus II with one spine at base; tibiae I and II unarmed. Epigynum, fig. 64. Length, 7 mm.

Type: Female, No. 1410, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 14, 1921, at **Guaymas, Sonora**. One female "collected at base of hill north of Guaymas. Lava rock entirely. Hill practically bare except for scattered mesquite, cholla and similar vegetation."

Readily distinguished from species described above in having only three teeth on upper margin of furrow of chelicera and a single spine on metatarsus II.

56. *Zelotes reformans* Chamberlin, new species

65

Fig. 65. *Zelotes reformans*, epigynum.

Female: Carapace, sternum and legs dark chestnut, in part dusky; abdomen grey or brownish grey, lighter beneath and with a somewhat vague median dorsal mark above, this pointed behind.

Posterior row of eyes straight or even slightly recurved; median eyes transversely somewhat elongate, nearly their diameter apart, the same distance, or slightly less, from the laterals; anterior median eyes their diameter or more apart, much smaller than the laterals the diameter of which is twice as great or nearly so; area of median eyes wider behind than in front in ratio of 15:10 or 11.

Upper margin of furrow of chelicera with three teeth, the lower with one small one or with a second obscure one in addition. Metatarsi I and II and also tibiae I and II wholly lacking spines. Epigynum, fig. 65. Length, 7 mm.

Type: Female, No. 1411, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 14, 1921, at **Guaymas, Sonora**. One female, with same habitat as noted for *Z. protestans*.

Zelotes sp.

Immature specimens not definitely referable to their species were taken at the localities indicated below.

Localities: Las Animas Bay, May 8, two; Ensenada, April 7, two; Isla Raza, April 21, one; Pelican Island, July 6, one; Tiburon Island, July 5, one; San Diego Island, May 28, one; San Esteban Island, April 19 and 20, five.

Genus *Drassyllus* Chamberlin

The two new species of this genus here described may be placed among the previously known species of the genus by means of the following key.

Key to Species of *Drassyllus*

MALES

- a₁. Upper margin of furrow of chelicera with four teeth.
 - b₁. Tibia I with a median ventral spine. *D. transversus* (Emerton).
 - b₂. Tibia I with no ventral spine.
 - c₁. Tibial apophysis of palpus abruptly bent near or a little beyond middle.
 - d₁. Tibial apophysis bent upward at right angles near middle; tib. + pat. I as long as cephalothorax. *D. depressus* (Emerton)
 - d₂. Tibial apophysis smaller and less abruptly bent; tib. + pat. I shorter than cephalothorax. *D. socius* Chamberlin
 - c₂. Tibial apophysis of palpus not abruptly bent near middle, at most curved or bent near tip.
 - d₁. Carapace black.
 - e₁. Lower margin of chelicera with three teeth. *D. fallens* Chamberlin
 - e₂. Lower margin of chelicera with two teeth.
 - f₁. Posterior median eyes circular; tibial apophysis of palpus much shorter than tibia, broad except at tip. *D. empiricus* new species.
 - f₂. Posterior median eyes elliptic and oblique; tibial apophysis of palpus as long as tibia or very nearly so, more slender throughout. *D. laccus* (Barrows)
 - d₂. Carapace yellowish or fulvous; lower margin of furrow of chelicera with two teeth; median ventral apophysis of palpus short and bluntly rounded *D. rufulus* (Banks)
- a₂. Upper margin of furrow of chelicera with five or six teeth.
 - b₁. Lower margin of furrow of chelicera with two teeth or nodules, or one of these obsolete; metatarsus II with three ventral spines.
 - c₁. Tibia II unarmed ventrally; tibial apophysis of palpus much shorter than tibia, its upper distal angle not prolonged. *D. liopus* Chamberlin
 - c₂. Tibia II armed with two or three ventral spines; tibial apophysis longer than tibia, its upper distal angle acutely prolonged. *D. irritans* (Chamberlin)
 - b₂. Lower margin of furrow of chelicera with three teeth or nodules.
 - c₁. Tib. + pat. I longer than cephalothorax; median ventral apophysis of palpus distally straight. *D. dromeus* Chamberlin.
 - c₂. Tib. + pat. I equal in length to or shorter than the cephalothorax.
 - d₁. Abdomen light grey or whitish; cephalothorax 3 mm. long. *D. blandus* (Banks)

- d₂. Abdomen darker grey to black; cephalothorax 2.5 mm. or less in length.
 - e₁. Tibial apophysis of palpus abruptly bent at tip; area of median eyes plainly longer than wide and as wide in front as behind.....*D. frigidus* (Banks)
 - e₂. Tibial apophysis not abruptly bent at tip; area of median eyes essentially equal in length and breadth, wider behind than in front.....*D. proclisis* (Chamberlin)

FEMALES

- a₁. Lower margin of furrow of chelicera with two teeth or nodules, or, rarely one or both of these obsolete.
 - b₁. Tibia III, or both tibiae III and IV with a median dorsal spine at base.
 - c₁. Both tibia III and IV with a median dorsal spine at base.....*D. apachus* Chamberlin
 - c₂. Only tibia III with a median dorsal spine at base.....*D. rationalis* new species
 - b₂. Tibiae III and IV with no median dorsal spine.
 - c₁. Epigynum with a well chitinized long anterior rim.
 - d₁. Anterior rim of epigynum distinctly bowed caudad at middle, concave at the ends.
 - e₁. Lateral ridges of epigynum strongly bowed mesad at middle (Eastern States).....*D. rufulus* (Banks)
 - e₂. Lateral ridges of epigynum not at all bowed mesad.....*D. irritans* (Chamberlin)
 - d₂. Anterior rim of epigynum straight or but little concave at middle, with strongly projecting angles at the ends....*D. niger* (Banks)
 - c₂. Epigynum with no such anterior rim, the lateral ridges only weakly developed.
 - d₁. Median plate of epigynum prominent, broad, caudally expanded and ending freely near middle of area.....*D. femoralis* (Banks)
 - d₂. Median plate less prominent and less broad, its caudal end not free.....*D. laccus* (Barrows)
- a₂. Lower margin of furrow of chelicera with three teeth or nodules.
 - b₁. Upper margin of furrow of chelicera with four teeth.
 - c₁. Tibia + patella I as long as tibia + patella IV and plainly longer than cephalothorax.....*D. louisianus* (Chamberlin)
 - c₂. Tibia + patella I shorter than tibia + patella IV and at most equal in length to the cephalothorax.
 - d₁. Tibia + patella I equal in length to the cephalothorax, tibia + patella IV exceeding it; median plate of epigynum differentiated, inversely T-shaped.....*D. depressus* (Emerton)
 - d₂. Tibia + patella I shorter than cephalothorax, tibia + patella IV equalling it; median plate of epigynum either not distinctly differentiated or not inversely T-shaped.
 - e₁. Epigynum with median plate expanded caudally and ending anteriorly toward middle of median channel; anterior rim angled.....*D. fallens* Chamberlin

- e₂. Epigynum with no such median plate, the anterior rim simply bowed.....*D. eremitus* Chamberlin
- b₂. Upper margin of furrow of chelicera with five teeth.
 - c₁. Epigynum with a well chitinized transverse rim; cephalothorax 2 mm. or more in length.
 - d₁. Anterior rim of epigynum bent forward in a sharp angle.
 - e₁. Anterior rim meeting the lateral one on each side in an acute caudally prolonged angle.....*D. orgilus* Chamberlin
 - e₂. Anterior rim not meeting the laterals in any such angle.....*D. frigidus* (Banks)
 - d₂. Anterior rim of epigynum straight or evenly curved at middle.
 - e₁. Posterior portion of dorsum of abdomen blackish; lateral ridges of epigynum strongly chitinized.
 - f₁. Tarsi and the anterior metatarsi, at least distally, scopulate; lateral ridges of epigynum each ending in a conspicuous angle behind.....*D. lepidus* (Banks)
 - f₂. Tarsi not truly scopulate; lateral ridges of epigynum not angled behind.....*D. aprilinus* (Banks)
 - e₂. Dorsum of abdomen uniformly colored; lateral ridges of epigynum weakly defined, the anterior rim extending beyond them.....*D. virginianus* Chamberlin

57. *Drassyllus empiricus* Chamberlin, new species



66

Fig. 66. *Drassyllus empiricus*, right palpus of male, ectal view.

Male: Carapace dark mahogany colored; sternum more brown; legs dusky; abdomen black, somewhat paler below.

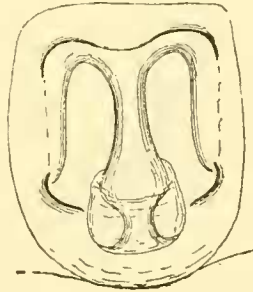
Posterior row of eyes very nearly straight; the median eyes sub-circular, much larger than the laterals, nearly contiguous with each other and only about one-fourth their diameter from the laterals; anterior median eyes fully their diameter apart, greatly exceeded in size by the laterals, the diameters comparing as 5:7.5.

Upper margin of furrow of chelicera with four teeth; lower margin of furrow with two teeth, or, in type, on one side with a minute third one laterally from the distal one of these. Anterior tibiae unarmed below; tibia IV with no median dorsal spine. Palpus, fig. 66.

Length, 4.8 mm.; cephalothorax, 2.5 mm.; tib. + pat. IV., 2.5 mm.

Type: Male, No. 1412, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 7, 1921, at **Ensenada, Lower California.**

58. *Drassyllus rationalis* Chamberlin, new species



67

Fig. 67. *Drassyllus rationalis*, epigynum.

Female: Carapace reddish-brown, dusky on the sides; sternum brown; legs reddish-yellow; abdomen black or nearly so above and laterally, lighter beneath.

Posterior row of eyes slightly procurved; median eyes moderately large, oblique, separated from each other by less than half their longer diameter and from the laterals by a nearly equal distance; anterior median eyes much smaller than the laterals, the diameters comparing as 3:4.

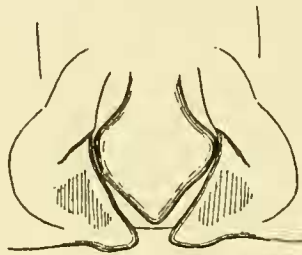
Lower margin of furrow of chelicera with two small teeth or nodules, the upper margin with five, of which the second from the most proximal is largest, the others decreasing toward claw. Tibiae I and II unarmed below; metatarsi I and II with a pair of spines between base and middle; tibiae III with a median dorsal spine at base, tibia IV with no such spine. Epigynum, fig. 67.

Length, 4.5 mm.

Type: Female, No. 1413, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 5, 1921, at **Angeles Bay, Lower California.** One adult female and one female apparently lacking one moult of maturity. *Paratype* in M. C. Z. (immature female).

Evidently related to *D. apachus* Chamberlin, known from Arizona, in form of epigynum and in general structure. It is easily separated by the lack of a median dorsal spine on tibia IV and in the relatively larger size and closer approximation of the posterior median eyes.

ZODARIIDÆ

59. *Homalonychus positivus* Chamberlin, new species

68

Fig. 68. *Homalonychus positivus*, epigynum.

Female: Carapace chestnut, with a small dark spot on each side of posterior end of head and three dark spots on each side of pars thoracica; sternum also chestnut, the legs more brownish; dorsum of abdomen reddish-yellow or somewhat orange-colored, the sides and venter lighter or else more grey; dorsum of abdomen clothed with numerous, short, erect hairs and with areas of stiffer, more spiniform setæ.

Anterior row of eyes procurved; median eyes fully their diameter apart, rather less than a third as far from the laterals; diameter of the latter about four-fifths that of the medians. Clypeus five times as high as the diameter of a lateral eye. Margins of furrow of chelicera unarmed. Tibia I with four pairs of long spines beneath, anterior face with two or three spines, posterior face with three; tibia II with four pairs of ventral spines, three pairs on anterior and same number on posterior face. Epigynum, fig. 68. Length, 10-11 mm.

Type: Female, No. 1414, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 14, 1921, at Guaymas, Sonora. *Allotype*, male, No. 1415, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, April 9, 1921, at Guaymas, Sonora. *Paratypes*: Guaymas, April 15, two females, J. C. Chamberlin; Guaymas, April 12, 1921, three females, E. P. Van Duzee, taken under stones with egg sacks; Tiburon Island,

July 3, 5, two females; San Pedro Bay, July 7, one adult and one immature female.

Differing from *H. selenepoides* Marx and *H. theologus* new species, the only other species of the genus known, particularly in the form of the epigynum; e. g. in having the median piece pointed behind instead of truncate or obtuse.

60. *Homalonychus theologus* Chamberlin, new species.

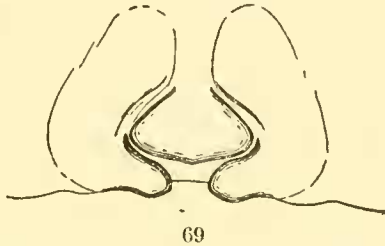


Fig. 69. *Homalonychus theologus*, epigynum.

Homalonychus selenepoides Banks (nec Marx), Proc. Cal. Acad. Sci., 1898, Ser. 3, I, p. 214.

Female: Carapace, sternum and legs chestnut; dorsum of abdomen greyish yellow, the venter grey; setæ as in *positivus*.

Anterior row of eyes procurved; median eyes their diameter apart, equal in size to eyes of second row; laterals five-sixths the diameter of the medians; anterior row of eyes longer than the posterior in the ratio 28:23.

Anterior tibiæ with spines as in *positivus*. Epigynum, fig. 69.

Length, 10 mm.; cephalothorax, 5.1 mm.; tibia + patella IV, 7.6 mm.; tibia + patella I, 7 mm.

Type: Female, M. C. Z., San Jose del Cabo, Lower California. *Paratypes* in M. C. Z. and Mus. Calif. Acad. Sci.; Sierra San Lazaro (M. C. Z); Angeles Bay, May 6, 7, June 26, four females, one immature male; La Paz, June 5, one female taken near the beach; San Luis Gonzaga Bay, April 29, one female; Puerto Escondido, May 29, four females, one male; Mejia Island, April 30, one adult female; Puerto Ballandra, Carmen Island, May 22, one female; San Francisco Island, May 29, one female; Danzante Island, May 29, one female; San Josef Island, June 9, two females;

Espiritu Santo Island, May 31; Santa Cruz Island, May 27, three females; San Marcos Island, May 12, several; Coronados Island, May 18, several females.

Homalonychus sp.

Immature specimens not referred to particular species were taken at the localities listed below.

Localities: Angeles Bay, June 25, one; Cuesta Blanca, 10-15 miles north of Loreto, May 20, one; La Paz, April 11, one; Santa Catalina Island, June 12, one; Angel de la Guarda Island, May 1, one; Pond Island, July 1, one; Espiritu Santo Island, June 8, one; Pelican Island, July 5, one; Ballena Island, June 9, one.

Pholcidae

61. *Artema atlanta* Walckenaer

Ins. Apt., 1837, I, p. 656.

Locality: Loreto, May 18, 1921, several specimens taken on ceiling of boat agency's office. The field note records them as very fast in movement.

This is a widespread species in South America and the West Indies.

62. *Physocyclus mysticus* Chamberlin, new species

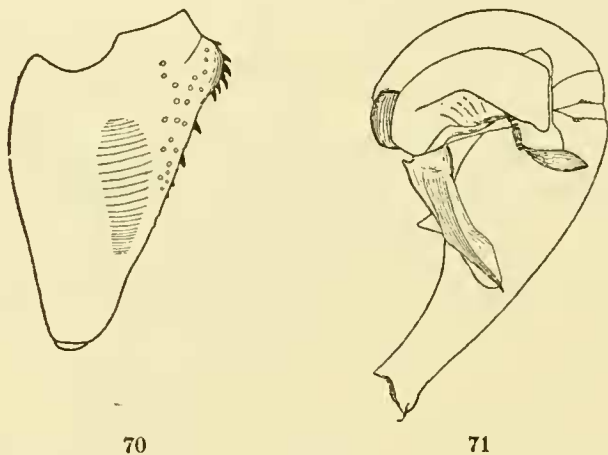


Fig. 70. *Physocyclus mysticus*, right chelicera of male, ectal view.

Fig. 71. Right palpus of male, mesal view.

Male: Carapace yellow, with brownish marks radiating from the thoracic grooves, on median line of head being line-like and pointed, and that running

caudad cuneate in form with wide end behind; sternum yellow, immaculate; legs yellow, the femur with black annulus at tip; patella with annulus at proximal end; and tibia with three rings of which the proximal is most distinct and the median one may be absent on anterior pairs; abdomen yellow with dusky markings above.

The cephalothorax has no elevation behind, but with eye-tubercle elevated as usual. Chelicerae a little prominent in front toward upper end but lacking the usual process below, fig. 70. Abdomen shaped nearly as in *P. globosus* Taczanowski. Palpus, fig. 71. Length, 6 mm.

Type: Male, No. 1416, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, June 22, 1921, on **Tortuga Island, Gulf of California**, readily distinguished in lacking the usual horn on the chelicera. *Paratypes*: San Francisquito Bay, May 10, one male; Puerto Escondido, June 14, 1921, one female probably of this species; Ballena Island, June 9, 1921, one female, probably of this species.

63. *Psilochorus dogmaticus* Chamberlin, new species



72

Fig. 72. *Psilochorus dogmaticus*, subventral view of anterior portion of abdomen of female, showing epigynal ridges and spinnerets.

Female: Carapace and sternum yellow; legs yellow with a dusky ring at distal end of femur and one at proximal end of tibia usually less distinct; abdomen dusky grey, with a basal sagittate mark above and paired darker areas of minute dots each side and behind, these sometimes indistinct.

Abdomen notched or furrowed at base as seen from above; spinnerets carried far forward beneath, adjacent to epigynal projection. Posterior row of eyes straight, the medians more than their diameter apart. Distinguished particularly by form of the epigynal sides which are wide, moderately bowed, and only slightly concave at middle, fig. 72. Length, 2.2 mm.

Type: Female, No. 1417, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 7, 1921, on **Ceralbo Island, Gulf of California**. *Paratypes:* Same data, two adult and two immature females; Espiritu Santo Island, May 3, 1921, three females; Tortuga Island, June 22, 1921, one female; San Marcos Island, May 12, 1921, four females; Salinas Bay, Carmen Island, June 16, 1921, one female; Puerto Escondido, May 29, 1921, one female.

64. *Psilochorus utahensis* Chamberlin

Ann. Ent. Soc. America, 1919, XII, p. 247.

Locality: San Pedro Bay, July 7, 1921, one male.

In addition females from Guaymas and Nogales, Arizona, are referred to this species with some doubt, as they are not in good condition.

65. *Psilochorus agnosticus* Chamberlin, new species

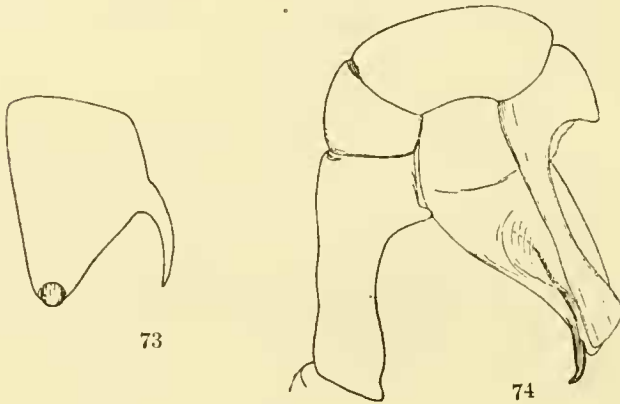


Fig. 73. *Psilochorus agnosticus*, right chelicera of male, ectal view.

Fig. 74. Right palp of male, ectal view.

Male: Carapace, sternum, and legs yellow; abdomen darker, showing a white or silvery background closely areolated with a network of dark lines and maculate over dorsum with black spots.

Posterior row of eyes a little procurved; median eyes their diameter or more apart; anterior median eyes much smaller than laterals as usual. Process of chelicera arising a little above middle; much more slender and distally more curved downward than in *pullulus* (Hentz) and *utahensis* Chamberlin, where the process is at base. The process is in position of that in *californica* Chamberlin but is longer and more strongly curved, fig. 73. Palpus, fig. 74.

Length, 1.8 mm.

Female: Both rims of the epigynal projection prominent and notched at middle. Length, 2.2 mm.

Type: Male, No. 1418, and *allotype*, female, No. 1419, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 21, 1921, on **Isla Raza, Gulf of California**. *Paratypes*: Same data, one adult male and two immature females; Isla Partida, July 2, 1921, four specimens.

Psilochorus sp.

Immature individuals of uncertain species were taken at the localities listed below:

Localities: Santa Inez Island, May 13, two; Coronados Island, May 18, one; Carmen Island, May 22, one; Danzante Island, May 24, one; Monserrate Island, May 25, one; San Josef Island, May 28, one; Ceralbo Island, June 6, one; Espiritu Santo Island, June 8, one; Ballena Island, June 9, one; Concepcion Bay, June 18, one; North San Lorenzo Island, June 24, one.

66. Psilochorus pullulus Hentz

Theridion pullulum Hentz, Jour. Bost. Soc. N. H., 1850, VI, p. 282.

Psilochorus pullulus Simon, Hist. Nat. Ar., 1893, I, p. 482, f. 474, 475.

Locality: Nogales, Arizona, April 4, 1921, E. P. Van Duzee.

One female, doubtfully referred to this species, which occurs from the middle latitudes of the United States southward to Patagonia.

THERIDIIDÆ

67. *Euryopsis californica* Banks

Proc. Cal. Acad. Sci., 1904, ser. 3, III, p. 345, pl. 39, figs. 23, 36.

Locality: Concepcion Bay, June 18, one female.

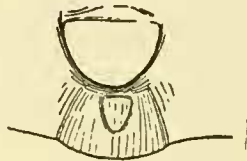
Previously known from California.

68. *Theridion studiosum* Hentz

Jour. Bost. Soc. Nat. Hist., 1850, VI, p. 275, pl. 9, fig. 5.

Locality: San Francisquito Bay, May 10, one female.

A species ranging from the southern United States through Mexico and into South America.

69. *Theridion positivum* Chamberlin, new species

75

Fig. 75. *Theridion positivum*, epigynum.

Female: Carapace, sternum, labium, endites and chelicerae black; legs pale yellow, narrowly and incompletely annulate with black, the black often appearing chiefly as dots or cross-lines; abdomen white, unmarked above and laterally; venter with a longitudinal black band that anteriorly encircles the pedicel, extends to the spinnerets, and encloses a central white spot just behind the epigastric furrow.

Abdomen in outline as viewed directly from above as wide as or wider than long. Epigynum, fig. 75. Length, 2 mm.

Type: Female, No. 1420, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, July 1, 1921, on **Pond Island, Gulf of California**. *Paratypes*: Same data, three females taken in sweeping, chiefly from Aster and Melochia; Concepcion Bay, June 18, one female; San Josef Island, June 10, three immature specimens; South San Lorenzo Island, June 29, one immature male; North San Lorenzo Island, June 29, three immature specimens.

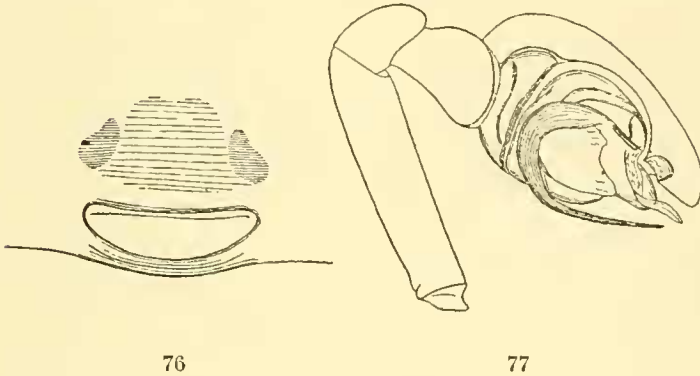
70. *Theridion analyticum* Chamberlin, new species

Fig. 76. *Theridion analyticum*, epigynum.
 Fig. 77. Right palpus of male, ectal view.

Female: Suggesting *T. studiosum* Hentz in general markings and appearance. Carapace fulvous with a black median band and black lateral borders; sternum dusky, often with a deeper median longitudinal stripe; legs annulate with black; abdomen with a dorsal black band over whole length, the band with edges serrate and bordered with white; venter also with a longitudinal black band reaching to the spinnerets which it partly surrounds, the spinnerets being also black.

The epigynum, while of the same general type, differs clearly from that of *T. studiosum* and the allied *T. eximium* (fig. 76). Length, 4 mm.

Male: Palpus as shown in fig. 77.

Length, 3.2 mm.

Type: Male, No. 1421, and *allotype*, female, No. 1422, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, April 20, 1921, on San Esteban Island, Gulf of California, by beating from shrubs. *Paratypes*: Same data, 18 examples; San Carlos Bay, July 7, 1921, one female; La Paz, April 11, 1921, six; Mulegé, May 14, one female; San Francisquito Bay, July 7, five immature; San Evaristo Bay, June 10, two young; Tiburon Island, south end, July 3, 5, five; San Pedro Nolasco Island, April 17, nine, partly immature, E. P. Van Duzee; San Josef Island, June 10, one female.

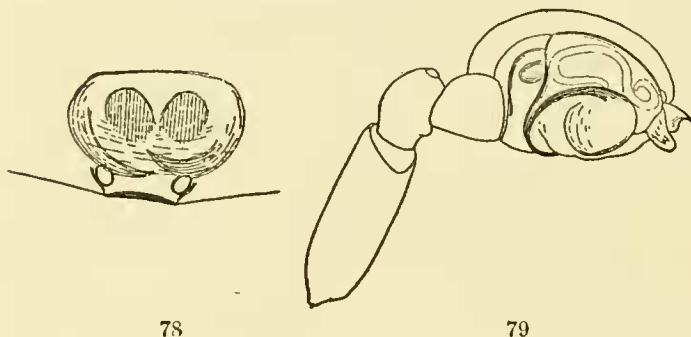
71. *Theridion geminipunctum* Chamberlin, new speciesFig. 78. *Theridion geminipunctum*, epigynum.

Fig. 79. Right male palpus, ectal view.

Female: Carapace clear yellow, with a narrow marginal line on each side of pars thoracica black; sternum yellow, sometimes with a dark marginal mark opposite the base of each leg; labium and endites slightly dusky; chelicerae yellow; legs yellow, annulate with dark, the annuli narrow; abdomen white above and laterally; venter grey in front of epigastric furrow and in an area in front of the spinnerets, white between these two areas, with this white band enclosing a pair of black dots which are occasionally only slightly indicated or may be wholly absent.

Abdomen in outline as viewed from above longer than wide. Epigynum, fig. 78. Length, up to 2.25 mm., but mostly near 2 mm.

Male: Palpus as shown in fig. 79.

Type: Male, No. 1423, and *allotype*, female, No. 1424, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, July 1, 1921, on Pond Island, Gulf of California. *Paratypes*: Same data, about 18 specimens, male and female, partly immature, swept principally from Erigeron and Melochia along with *T. positivum*; San Francisquito Bay, May 10, 1921, two; Pond Island Bay, Angel de la Guarda Island, June 30, six young; South San Lorenzo Island, June 29, one immature male; North San Lorenzo Island, June 29, four immature.

72. *Theridion tepidariorum* C. Koch

Die Arachniden, 1841, VIII, p. 75, figs. 647, 648.

Locality: Ensenada, April 7, one female.

A cosmopolitan species occurring commonly about buildings.

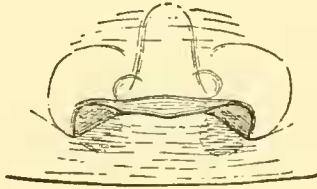
73. *Latrodectus mactans* (Fabricius)

Aranea mactans, Fabricius, Entom. Syst., 1793, II, p. 410.

Latrodectus mactans, Keyserling, Spinnen Amrikas, Theridiidæ, 1884, I, p. 145, pl. 7, fig. 91.

Localities: Guaymas, April 9, eight females collected by E. P. Van Duzee; San Pedro Bay, July 7, one immature female; Concepcion Bay June 18, one female; San Francisquito Bay, May 10, two females; Nogales, Arizona, April 4, two immature, E. P. Van Duzee; Isla Partida, April 17, 22, three adult and two immature females; Isla Raza, April 21, three females; Santa Inez Island, April 13, three females; Patos Island, April 23, six females; San Diego Island, May 27, one female; Ildefonso Island, May 17, two females; San Marcos Island, June 20, one female; Pelican Island, July 5, four females.

74. *Teutana nesiotæ* Chamberlin, new species



80

Fig. 80. *Teutana nesiotæ*, epigynum.

Female: Carapace and sternum reddish-brown, without markings, the mouth-parts similar; coxæ and femora of the legs also reddish-brown, with those of the first two pairs dusky, the distal joints more yellowish, the patella tibia and metatarsus each with a darker annulus at distal end. Abdomen above somewhat rusty-brown; a white stripe across anterior face and back over each anterolateral corner, a median longitudinal white stripe over and behind middle partially constricted into somewhat triangular or diamond shaped areas; an oblique white mark down each side behind middle and another longitudinal mark in front of it; venter with a median hour-glass shaped white mark wider in front than behind and sometimes broken at its middle.

Anterior row of eyes moderately procurved, the eyes subequal; median eyes about their radius from each other, a little nearer to the laterals; posterior row of eyes straight, eyes equal, the medians a little less than their diameter apart and a little farther from the laterals. Epigynum, fig. 80. Length, 5 mm.

Type: Female, No. 1425, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 2, 1921, on **Granite Island, Gulf of California**. *Paratypes:* Same data, one female; Ceralbo Island, June 6, one immature female, probably of this species.

Teutana sp.

Locality: Granite Island, May 2.

A single female, with the epigynum apparently not yet fully formed, differs from the preceding species, with the types of which it was taken.

75. Lithyphantes pulcher Keyserling

Spinnen Amerikas, Theridiidæ, 1884, I, p. 137, pl. 6, fig. 85.

Lithyphantes venustus Marx, Proc. Cal. Acad. Sci., 1898, Ser. 3, I, p. 239, pl. 14, fig. 2.

Localities: Angeles Bay, May 5, 6, four females; Puerto Escondido, May 29, one female; San Nicolas Bay, May 16, one female.

76. Lithyphantes punctulatus Marx

Proc. Cal. Acad. Sci., 1898, Ser. 3, I, p. 239, pl. 14, fig. 4.

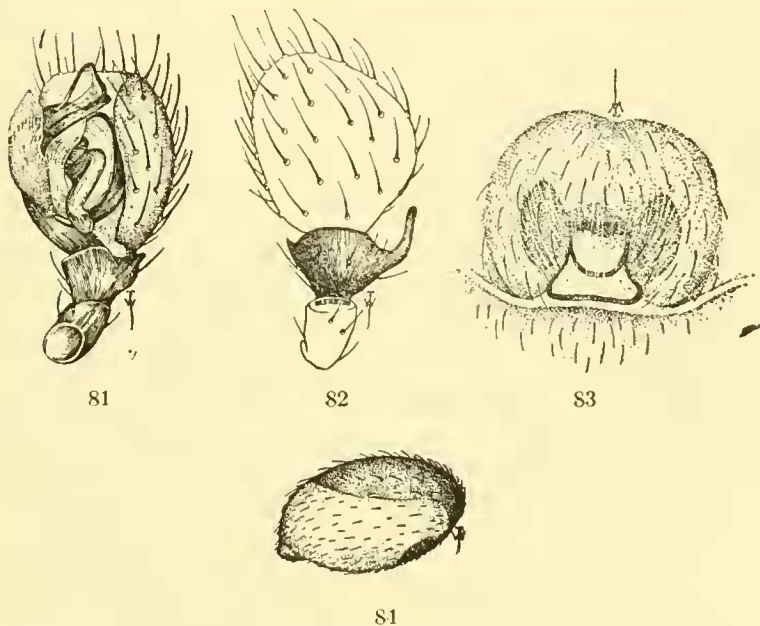
Lithyphantes medialis Banks, *ibid.*, p. 240, pl. 14, fig. 3.

In the type of *L. punctulatus* the dorsal marks of the abdomen are more or less broken at the middle line so as to form pairs, but this is only one of numerous color variations occurring in this species. The epigynum is the same in all.

Localities: Guaymas, April 14, one normal female, and two very dark females with markings largely obscured; La Paz, June 4, four females taken "in their webs a few inches from ground with retreats under stones;" Puerto Escondido, May 29, one male; Angeles Bay, June 26, one male, three females; San Esteban Island, April 20, one female; Mejia Island, April 30, two females; San Pedro Martir Island, April 18, many; Patos Island, April 23, one female; San Pedro Nolasco Island, April 17, one, immature; Sal si Puedes Island, May 9, four females; Puerto Ballandra, Carmen Island, May 21, 22, three females; Espiritu Santo Island, May 30, three females; El Candeleros Bay, Espiritu Santo Island, June 8, one female; San Josef Island, May 29, one female; Porto Refugio, Angel de la Guarda Island, May 1, one female and one immature specimen taken at elevation of 1000 ft.; Monserrate Island, May 24, one female; San Diego Island, May 27, one female, probably this species but with markings reduced to scattered dots; Tortuga Island, May 18, one female; Coronados Island, May 18, two females; San Francisco Island, May 29, one; North San Lorenzo Island, June 24, one male and two females; Ceralbo

Island, June 7, three females, two of them immature, taken "at Rufo's ranch-house on west coast;" Isla Partida, June 24, two females and several immature; Santa Cruz Island, June 11, May 27, one female on each date; Smith's Island, June 27, two females and one male; Ballena Island, June 9, two females.

LINYPHIIDÆ

77. *Ceraticelus nesiotus* Crosby, new species

- Fig. 81. *Ceraticelus nesiotus*, right palpus of male, subventral view.
 Fig. 82. Same, dorsal view.
 Fig. 83. Epigynum.
 Fig. 84. Abdomen of male, lateral view.

Male: Length, 1.5 mm. Cephalothorax light brownish-yellow; area covered by the base of the abdomen sharply limited in front by a curved row of minute brownish setigerous tubercles; on the median line there are three larger hairs curved forward. Seen from the side, the cephalothorax is rather steeply declivate and slightly concave posteriorly, dorsally nearly level, and in front curves down to the eyes. Head not separately elevated. Viewed from above the cephalothorax is rather broad, rounded on the sides, convergent in front, not constricted. Eye area not black, but the eyes surrounded by narrow black rings; the anterior median on a common black spot. Clypeus slightly convex

and slightly protruding. Posterior eyes in a straight line, separated by about their diameter, the median slightly nearer to each other than to the lateral; anterior eyes in a straight line, the median smaller than the lateral, subcontiguous, separated from the lateral by about the radius of a median. Sternum yellow slightly tinged with brown, the narrow margin brown, as broad as long, produced between the hind coxæ which are separated by their length, squarely truncate posteriorly. Labium darker than sternum. Endites brownish-yellow. Endites and sternum sparsely clothed with hairs arising from minute brownish tubercles. Cheliceræ darker than the endites. Legs and palpi light brownish-yellow, patellæ paler than the other segments. Soft parts of abdomen nearly white, dotted with minute brown piliferous tubercles. Dorsal sclerite orange-yellow, restricted to the anterior two-thirds of the abdomen; narrower than the abdomen, the lateral margin serrate; anteriorly it extends over the front of the abdomen down to the pedicel; in front it appears rugose due to the stronger development of the piliferous tubercles. Epigastric plates well developed. On each there is a bean-shaped area in which the surface is finely striate. This area is opposed to a small tooth borne on the posterior distal angle of the hind coxa and doubtless serves as a stridulating organ. Infra-mammillary sclerite broad below, but narrow on the sides and above the spinnerets. The tibia of the palpus has a rather long, cylindrical, blunt process on the dorso-lateral angle. This is bent so as to lie nearly parallel to the axis of the segment. The palpal organ is of the type characteristic of the genus. The embolus makes a sharp turn at the point where it is joined by the ejaculatory duct. From this point the duct follows it closely to the tip. Paracymbium flat and curved into a semicircle.

Female: Length, 1.5 mm. Similar to the male in coloration. Dorsal sclerite confined to the anterior surface of the abdomen and when viewed from above visible merely as a narrow crescent. Epigastric plates separated from the sclerite bearing the epigynum by narrow but distinct intervals in which the integument is white like the rest of the abdomen. Infra-mammillary sclerite transverse, not extended along the sides of the spinnerets. The epigynum has a broad median depression squarely truncate in front and wider behind than in front, sides nearly straight. Anterior part of the depression occupied by a transverse sclerite, convex behind (fig. 83.)

Type: Male, No. 1426, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, July 3, 1921, at Willard's Point Bay, Tiburon Island, Gulf of California. *Allotype*, Female, No. 1427, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 3, 1921, at Palm Cañon, Angel de la Guarda Island. *Paratypes*: Same data as allotype, two males, four females.

This species is most closely related to *C. formosus* (Banks), of which *C. rugosus* Crosby is a synonym, common on the beach of the North Atlantic Coast and rarely found inland.

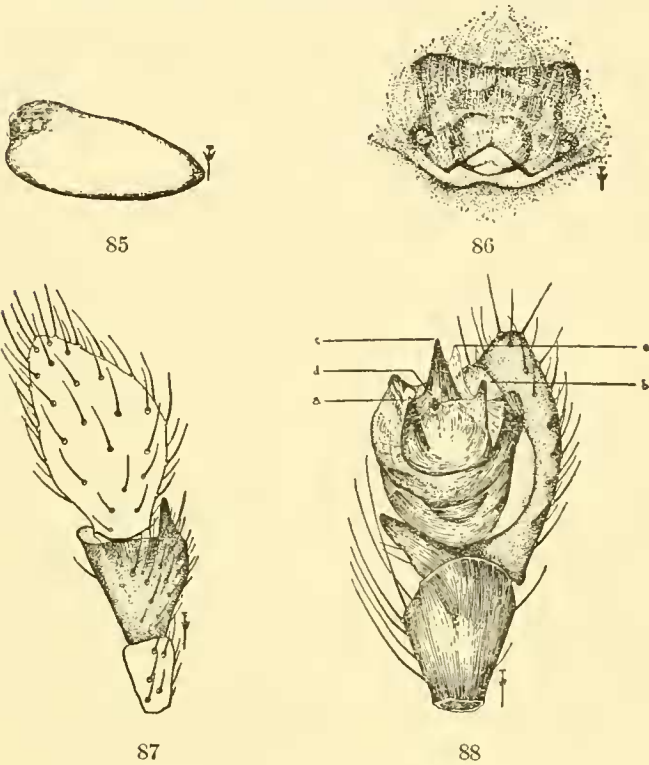
78. *Erigone eschatologica* Crosby, new speciesFig. 85. *Erigone eschatologica*, cephalothorax, lateral view.

Fig. 86. Epigynum.

Fig. 87. Palpus, dorsal view.

Fig. 88. Same, mesoventral view.

Male: Cephalothorax light brownish-yellow, dusted with grey and with a very narrow marginal grey line, a black spot between and below the anterior median eyes; viewed from above, broad, with sides rounded and with the outline constricted at the cervical groove; viewed from the side, gently arched to the cervical groove, where there is a slight depression, and then gently rounded over the head to the eyes. Clypeus slightly protruding and gently convex near the margin (fig. 85). Posterior eyes in a straight or very slightly recurved line, separated by about their diameter, the medians slightly closer to each other than to the laterals; anterior eyes in a straight line, equidistant, the median much smaller than the lateral.

Sternum grey over yellow. Hind coxae separated by less than their diameter. Endites yellow at tip and greyish at base, armed with only a few setigerous tubercles. Chelicerae reddish-brown, not so strongly convex as in many species

of the genus; armed in front near the outer margin with a row of seven sharp teeth increasing in size from above, and on the front just above the furrow with a strong acute tooth. Legs and palpi light brownish-yellow; coxæ light greyish below; legs distinctly hairy. Abdomen grey, lighter in front and marked behind with several transverse whitish bands. Ventral aspect of abdomen broadly grey in the middle, with a light line on each side; epigastric plates yellowish, well separated by grey integument.

Femur of palpus moderately long and gently curved, not armed with teeth, but bearing on the ventro-lateral surface a row of four or five stiff hairs. Patella short and not armed with the usual tooth at tip below. Tibia one and one-half times as long as patella, evenly enlarged from base to apex, armed above with an apophysis, convex on the mesal side and straight or gently concaved ectally (fig. 87); outer side of this apophysis continuing the outline of the paracymbial echancre of the tarsus. Paracymbium strongly curved, and ending in a small hook. Embolic division of the palpal organ (fig. 88) consisting of a more or less triangular plate bearing a strong process at each corner; the basal one (a) black and sharp-pointed, the one nearest the tip (b) more slender and rounded at apex, the one on the ectal side (c) larger than the other, black, and acute. Situated in the midst of these points is the small and short embolus (d). Near the process (c) is a hyaline process (e); median apophysis appearing on the ectal side of the embolic division as a curved process with a broad curved end with a very uneven margin (not shown in the figure.)

In another specimen from Lower California, Puerto Escondido, June 14, 1921, which is light colored and had more recently moulted, the color pattern on the abdomen is more distinct. In front the abdomen is nearly white, with a median grey stripe which posteriorly joins a triangular transverse band; back of this is a broad whitish band narrowly interrupted in the middle; farther back are four narrow whitish bands, the last continuous with the light-colored area on the sides. Under side of abdomen grey with a large pale area in the middle. Length, 2 mm.

Female: Similar to the male in general coloration; abdomen marked much as in the light-colored male described above; there is, however, an indication of a transverse grey band across the light area on the front part of the abdomen. The usual teeth on the sides and on the inner angle of the chelicerae represented by setæ borne on small tubercles. Epigynum (fig. 86) consisting of a broad plate; on each side of the hinder half is a depression bounded in front by a smooth transverse ridge; hind margin broadly excised, bringing into view the rounded edge of an underlying lobe. Length, 2.5 mm.

Type: Male, No. 1428, and *allotype*, female, No. 1429, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 19, 1921, on San Marcos Island, Gulf of California. *Paratypes*: Puerto Escondido, June 14, one male, two females.

This species belongs to that division of the genus, represented by *E. dentimandibulata* Keys., in which the teeth on the margin of the cephalothorax, the palpus, and the cheli-

ceræ are greatly reduced and in which the abdomen is ornamented with a pattern of dark and light bands similar to the markings in Grammonota. Simon (Hist. Nat. Ar. 1: 638, 1894) states that he has found several species of this type in Venezuela.

ARGIOPIDÆ

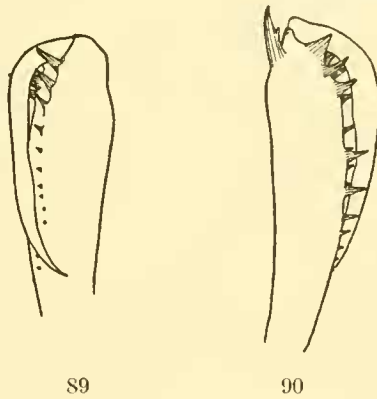
79. *Tetragnatha eremita* Chamberlin, new species

Fig. 89. *Tetragnatha eremita*, left chelicera, ventral view.

Fig. 90. Same, dorsal view.

Male: Lateral eyes on each side nearer together than are the medians, their tubercles connected by a dark line. Chelicerae nearly seven-eighths as long as the cephalothorax; fang without a definite tooth or cusp at base; at distal end above and close to base of fang a conspicuous curved process which bears a tooth proximad of end on under side, this process extending distad beyond base of claw; ventrad of this are two other processes or large teeth of which the distal one, the smaller, is near base of fang, the second of these followed proximally by a larger interval and then by six teeth along the upper margin of the furrow of which the proximal five are nearer together. On the ventral side of the chelicera at base of claw a short but wide process notched at middle and more prolonged on mesal side of notch; proximad of this three longer teeth followed proximally, after a wider interval, by eight teeth decreasing in size to proximal end (figs. 89 and 90.)

Length, 5.8 mm. Length inclusive of chelicerae, 7.4 mm. Length of tibia + patella I, 7 mm.; of tibia + patella IV, 4 mm.

Type: Male, No. 1430, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 14, 1921, at **Puerto Escondido, Lower California**, one male taken in the Arroyo de Escondido.

A female taken at the same time and place is doubtfully the same species.

80. *Argiope argentata* Fabricius

Aranea argentata Fabricius, Ent. Syst., 1793, II, p. 414.

Argiope argentata C. Koch, Die Arachniden, 1839, V, P. 38, pl. 134, fig. 360.

Localities: San Francisco Bay, May 10, one, June 20, two females; Tiburon Island, April 23, one female, July 5, one female; San Marcos Island, May 12, one female, June 20, two females; San Josef Island, May 28, two females; San Francisco Island, May 30, one female; Espiritu Santo Island, June 1, two males and two females; Tortuga Island, June 22, three females; Ceralbo Island, June 6, one male and one female; San Lorenzo Island, June 24, one male; Angel de la Guarda Island, June 29, two females; Pelican Island, July 6, three females.

A familiar species from the southern United States southward as far as Patagonia.

80a. *Metargiope trifasciata* Forskal

Aranea trifasciata Forskal, Descript. Anim., 1775.

Epeira fasciata, Hentz, Jour. Bost. Soc. Nat. Hist., 1847, V, p. 468, pl. 30, fig. 5.

Argiope transversa Emerton, Trans. Conn. Acad. Sci., 1885, V, p. 530, pl. 34, fig. 20; pl. 38, figs. 15-18.

Argiope argyraspis McCook, American Spiders, 1893, III, p. 219, pl. 15, fig. 8; pl. 16, figs. 3, 4.

Metargiope trifasciata F. Cambridge, Biol. Cent. Amer. Arach., 1903, II, p. 451, pl. 18, figs. 2, 3.

Locality: Angel de la Guarda Island, June 29, one female.

This species, the familiar banded garden spider, is of world-wide distribution in tropical and subtropical regions and occurs in America from Canada to Chile.

81. *Cyclosa bifurca* McCook

Cyrtophora bifurca McCook, Proc. Acad. Nat. Sci. Phil., 1887, XXXIX, p. 342.

Cyclosa fissicauda Cambridge, Biol. Centr. Amer. Arach., 1889, I, p. 49, pl. 8, fig. 7.

Cyclosa bifurca McCook, American Spiders, 1893, III, p. 221, pl. 17, figs. 9, 10.

Localities: La Paz, June 5, three; Ceralbo Island, June 7, seven.

A species previously known from Mexico and Central America and from Florida.

82. *Cyclosa turbinata* Walckenaer

Epeira turbinata Walckenaer, Ins. Apt., 1842, II, p. 140.

Epeira caudata Hentz, Jour. Bost. Soc. Nat. Hist., 1850, VI, p. 23, pl. 3, fig. 14.

Cyclosa turbinata McCook, American Spiders, 1893, III, p. 224, pl. 17, figs. 5, 6.

Localities: Tepoca Bay, April 25, eight; La Paz, June 5, two; Isla Partida, May 22, one, July 1, seven; Tiburon Island, May 23, one; Sal si Puedes Island, May 9, one; Santa Inez Island, May 13, three; San Marcos Island, June 20, one; Ildefonso Island, May 17, five; Las Galeras Island, June 14, three; Isla Raza, June 21, numerous specimens collected by J. C. Chamberlin; May 21, five, collected by E. P. Van Duzee; Patos Island, April 23, one.

A common species throughout the United States and in Canada. It has also been taken in the Bermudas.

83. *Cyclosa walckenaeri* Cambridge

Epeira bifurcata Keyserling (*nec* Walckenaer), Sitz. Ber. Isis., 1863, p. 142, pl. 6, figs. 22, 23.

Turckheimia walckenaeri Cambridge, Biol. Centr. Amer. Arach., 1889, I, p. 47, pl. 8, fig. 1.

Cyclosa walckenaeri McCook, American Spiders, 1893, III, p. 226, pl. 17, fig. 1.

Locality: La Paz, June 5, three.

A species previously known from California and southward through Mexico and the West Indies to Central America, Colombia and Brazil.

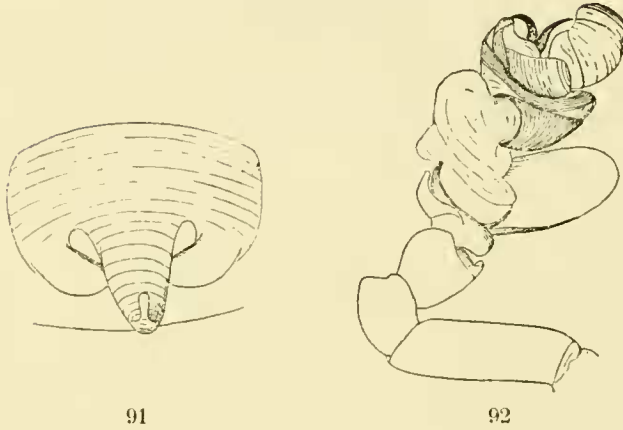
84. *Metepeira labyrinthea* Hentz

Fig. 91. *Metepeira labyrinthea*, epigynum.
 Fig. 92. Right palpus of male, ectal view.

Epeira labyrinthea Hentz, Jour. Bost. Soc. Nat. Hist., 1847, V, p. 471, pl. 31, fig. 3.

Metepeira labyrinthea F. Cambridge, Biol. Cent. Amer., Arach., 1903, II, p. 458, pl. 43, figs. 6, 7.

Localities: Tepoca Bay, April 25, one; Mejia Island, April 30, about 12; San Pedro Nolasco Island, April 17, numerous specimens; South San Lorenzo Island, April 9, one female; North San Lorenzo Island, June 24, one female; Las Galeras Island, June 13, one female; Isla Partida, July 2, several.

This familiar form, occurring in all parts of America and its islands from Labrador southward, would seem to be one of the commoner species of spiders on the islands of the Gulf of California.

85. *Aranea gemma* McCook

Epeira gemma McCook, Proc. Acad. Sci. Phil., 1888, XL, p. 193, figs. 1, 2.

Aranea gemma Comstock, Spider Book, 1912, p. 472, fig. 490.

Locality: South San Lorenzo Island, May 9, two females.

This is a large and conspicuous species familiar in the western United States but not previously recorded from within Mexico.

86. *Aranea detrimentosa* Cambridge

Epeira detrimentosa Cambridge, Biol. Centr. Amer., Arach., 1889, I., p. 26, pl. 6, fig. 7.

Epeira heidemanni Marx, Catalogue, 1889, p. 545.

Epeira tranquilla Keyserling, Spinnen Amerikas, Epeiridæ, 1892, p. 137, pl. 7, fig. 101.

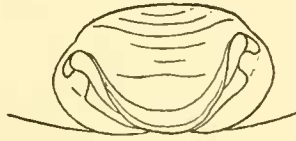
Epeira nigrohumeralis Cambridge, Biol. Centr. Amer. Arach., 1893, I., p. 111, pl. 15, fig. 3.

Aranea detrimentosa Cambridge, Biol. Centr. Amer. Arach., 1904, II, p. 515, pl. 49, fig. 18.

Localities: Tepoca Bay, April 25, one female; Pelican Island, July 6, two females; Patos Island, April 23, one male, one female.

This species is known to occur from the southern United States through Mexico to Central America.

87. *Larinia cymotypha* Chamberlin, new species



93

Fig. 93. *Larinia cymotypha*, epigynum.

Female: Carapace pale yellow with some narrow black marginal stripes and a median dorsal black line from the posterior median eyes caudad and down the posterior declivity. Sternum mostly black. Legs pale yellow; anterior femora longitudinally streaked with black on the sides, the black streaks absent from the posterior pair; patellæ and tibiæ longitudinally streaked with black above and laterally; the black on the metatarsi tending to condense into four annuli of which the distal one is longest and most pronounced. The abdomen ventrally has a black band over its entire length bordered each side with yellow and divided behind the epigastric furrow by a yellow line. The dorsum is characteristically marked with a narrow median longitudinal pale stripe which is limited on each side by a strongly wavy black line, contrasting with the straight lines in *L. directa* (Hentz), etc., this median stripe embracing a less distinct dark stripe; each side of the median pale stripe the dorsum is dusky, the pigment appearing under the lens in numerous dots, the darker area crossed longitudinally by one typically complete wavy pale line, and with two or more incomplete ones.

Abdomen narrow, similar in form to that of a Tetragnatha. Epigynum, fig. 93. Length, 7 mm., tibia + patella I, 5.2 mm.; tibia + patella IV, 4.2 mm.

Type: Female, No. 1431, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, June 30, 1921, at Pond Island Bay,

Angel de la Guarda Island, Gulf of California. *Paratype*: San Esteban Island, April 19, 1921, one immature female.

88. *Eustala anastera buliafera* Chamberlin, new sub-species

Female: Obviously close to typical *E. anastera* (Walckenaer), but differing from that and other North American species in having a distinct tubercle on each anterolateral corner of the abdomen. Caudal tubercle less pronounced than in *E. anastera conchlea* which occurs in California and is found also in Florida. It is a larger form than is usual either in typical *anastera* or in *anastera conchlea*, and has the color markings more sharply defined.

Integument of thoracic part of cephalothorax brown, the head much paler; sternum pale; femora of legs dusky or blackish excepting proximally; patellæ dark at ends; tibiæ with three black rings of which the middle is longest and the proximal one short and usually incomplete; metatarsus also with three black annuli of which the proximal is much reduced and incomplete; tarsi with distal half black. Dorsum of abdomen with a sharply defined folium behind level of tubercles and limited by a black line bordered with white; in front of tubercles a light area divided by a median longitudinal dark line; venter with a median light area behind epigastric furrow and a pair of light dots in front of spinnerets sometimes more or less clearly set off. Length, 7 mm.

Type: Female, No. 1432, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, July 2, 1921, on **Isla Partida, Gulf of California**. *Paratypes*: same data, several specimens; Tepoca Bay, April 25, one immature male; Las Galeras Islands, June 13, 1921.

89. *Eustala anastera leuca* Chamberlin, new sub-species

Female: This differs from the preceding subspecies in lacking the anterior angles or tubercles on the abdomen. It has a distinct caudal tubercle which is smaller than in the subspecies *conchlea* but better defined than in *anastera* sens. str. It is lighter throughout than the other forms; the legs lack distinct annuli, though the femora may be darkened at the distal end, especially on the dorsal side; the dorsum of the abdomen bears the usual folium, but this is obviously paler and less strongly marked; the venter is wholly pale excepting at base of spinnerets.

Apical portion of scape of epigynum ordinarily bent into a hook-like form and very similar to that of the type form.

Length, 7 mm.; abdomen, 5.2 mm.; width, 5 mm.

Type: Female, No. 1433, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, May 13, 1921, on **South Santa Inez Island, Gulf of California**. *Paratypes* in Mus. Calif. Acad. Sci., and M. C. Z., same data as type, about eight specimens.

Eustala sp.

A form represented only by immature specimens in the collection. It is light colored throughout; venter of abdomen with a black spot in middle, dorsum lacking folium; abdomen with a well-defined caudal tubercle; bearing long setæ with numerous much shorter ones intervening.

Length of largest specimen, 8.8 mm.

Localities: San Francisquito Bay, May 10; Concepcion Bay, June 17; San Marcos Island, May 12; Carmen Island, May 21.

90. Gasteracantha cancriformis Linne

Aranea cancriformis Linne, Syst. Nat., 1767, 11th ed., II, p. 1037.

Gasteracantha cancriformis C. Koch, Die Arachniden, 1838, IV., p. 21, pl. 114, fig. 263.

Epeira cancer Hentz, Jour. Bost. Soc. Nat. Hist., 1850, VI., p. 23, pl. 3, fig. 13.

Gasteracantha rufospinosa Marx, Ent. Amer., 1888, II., p. 25.

Localities: La Paz, April 11, one; San Francisco Island, May 20, many; Espiritu Santo Island, June 1, one.

This species occurs commonly from Paraguay and Brazil northward through the West Indies and Mexico into the southern section of the United States.

91. Micrathena funebris Marx

Acrosoma funebris Marx, Proc. Cal. Acad. Sci., 1898, Ser. 3, I, p. 249.

Micrathena funebris Petrunkevitch, Cat. Amer. Spiders, 1911, p. 370.

Localities: San Josef Island, May 29, June 9, 10, many; Coronados Island, May 18, six, collected by E. P. Van Duzee.

Known previously only from Lower California.

MIMETIDÆ

92. Mimetus hesperus Chamberlin

Jour. Ent. and Zool., 1923, XV., p. 5, f. 7 and 8 (adv. reprint issued July, 1922).

Locality: Patos Island, April 23, 1921, one male.

This species was previously known as occurring in the Southwestern United States, as in Texas, Utah, Arizona, and California, the range extending northward on the Pacific Coast to Washington state. Records from this region given by authors under *M. intersector* probably all refer to this species.

THOMISIDÆ

93. *Misumenops celer* Hentz

Thomisus celer Hentz, Jour. Bost. Soc. Nat. Hist., 1847, V., p. 446, pl. 23, fig. 5.

Diaea lepida Thorell, Bull. U. S. Geol. Geog. Surv., 1877, III., p. 498.

Misumena spinosa Keyserling, Spinnen Amerikas, Laterigradæ, 1880, p. 81, pl. 2, fig. 42.

Misumena georgiana Keyserling, *ibid.*, p. 86, pl. 2, fig. 45.

Misumena californica Banks, Jour. N. Y. Ent. Soc., 1896, IV., p. 91.

Misumena decora Banks, Proc. Cal., Acad. Sci., 1898, Ser. 3, I, p. 263, pl. 16, fig. 13.

Diaea spinigera Cambridge, Biol. Centr. Amer. Arach., 1898, I., p. 241, pl. 33, fig. 16.

Misumenops spinosus F. Cambridge, *ibid.*, 1900, II., p. 144, pl. 10, fig. 6.

Misumena diegoi Keyserling, Verh. zool-bot., Ges. Wien, 1887, XXXVII., p. 481, pl. 6, fig. 41.

Misumessus pallidulus Banks, Jour. N. Y. Ent. Soc., 1904, XII., p. 112, pl. 5, fig. 8.

Localities: Guaymas, April 12, one female, E. P. Van Duzee; San Luis Gonzaga Bay, April 29, one adult male and two immature individuals; Mulegé, May 14, two immature females, E. P. Van Duzee; Loreto, one female; San Nicolas Bay, May 17, one immature female probably this species; Las Animas Bay, May 8, five females; San Francisquito Bay, May 13, several males and females; Puerto Escondido, June 14, one female; San Francisco Island, May 30, four females, E. P. Van Duzee; Ceralbo Island, June 7, one immature male probably this species; Ildefonso Island, May 18, four immature females; San Marcos Island, May 13, one female, E. P. Van Duzee; South San Lorenzo Island, May 10, three immature females; Pond Island Bay; Angel de la Guarda Island, June 30, two females and many young.

One of the females from Angel de la Guarda Island is strikingly colored, the pigment being a bright red. On the anterior legs the pigment forms bands at both ends of tibia and one on patella, at distal end of metatarsus, and occurs over part of femur as well as on coxæ beneath. It is not thought that these markings are of systematic significance, as they correspond rather closely to the dark markings normally present in the male.

This species is common in the Southern States and across the southern part of the country to California, from where it ranges northward to Washington and southward into Mexico and the West Indies. In the northeastern United States and Canada it is replaced by the closely allied *M.*

asperatus (Hentz), a species also occurring in the Southern States but there by no means so common.

M. celer is subject to considerable variation. An examination of extensive series of specimens convinces me that the names listed above are synonymous. Variations shown by the types examined can be matched in a good series from a single locality and thus do not correspond with definite geographical areas. The peculiarity in form of epigynum figured for *M. diegoi* is exhibited by sporadic specimens from different localities and is due to a transparent stage in the integument through which subjacent parts appear more distinctly.

94. *Misumenops dubius* Keyserling

Misumena dubia Keyserling, Spinnen Amerikas, Laterigradæ, 1880 p. 9, pl. 2, fig. 48.

Misumena ornata Cambridge, Biol. Cntr. Amer. Arach., 1893, I., p. 119, pl. 15, figs. 11, 13.

Misumenops dubius F. Cambridge, *ibid.*, 1900, II., p. 145, pl. 10, fig. 10.

Locality: Guaymas, April 9, one female taken by E. P. Van Duzee.

Previously known only from Guerrero and Tepic in Mexico.

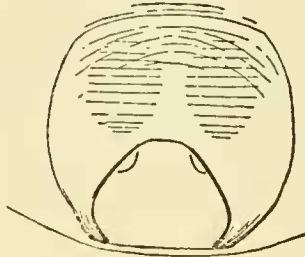
Horodromus Chamberlin, new genus

Endites not acuminate, the labium distally truncate. Margins of furrow of chelicera wholly unarmed. Both rows of eyes strongly recurved, with the posterior row greatly exceeding the anterior in length. Posterior lateral eyes larger and more prominent than the anterior lateral eyes. Clypeus nearly as high as length of median ocular area. Median ocular area narrower in front than behind and about as wide behind as the length. Cephalothorax low and broad. Sternum truncate behind. Abdomen subtruncate in front and pointed behind; not elevated. Anterior legs longer than the posterior, the second pair longest. Tarsi and claws of normal form, the tarsi not at all scopulate, but with strongly developed fasciculi unguiculares of spatulate hairs. Anterior tibiæ with only two pairs of ventral spines. Integument with erect setæ and also with a closer covering of coarse, squamose hairs.

Genotype: *Horodromus absolutus* new species.

A philodromoid form characterized especially by the complete absence of scopulæ on tarsi.

95. *Horodromus absolutus* Chamberlin, new species



94

Fig. 94. *Horodromus absolutus*, epigynum.

Female: Carapace fulvous, with a dusky band over each side and a dark mark transversely across caudal end of pars cephalica; clypeus dark under eyes, the dark area produced by numerous minute dots and divided at middle by a pale vertical stripe; chelicerae darkened in front by numerous dark dots which do not extend to lower end; sternum, labium, endites, and the coxae beneath, clear yellow; legs yellowish, with minute black dots more or less densely accumulated in larger dark spots and areas; abdomen fulvous, with a blackish sagittate mark at base above and with the sides also blackish; venter clear fulvous.

Posterior row of eyes strongly recurved; the eyes equidistant; lateral eyes much larger than the medians, their diameters being as 5:3; anterior row of eyes much shorter than the posterior (2:3), the median eyes much farther from each other than from the laterals.

Tibiae I and II with two pairs of long ventral spines, one pair at base and one at middle; with two shorter spines on anterior and two on posterior face; metatarsi I and II with three pairs of ventral spines, the apical ones shortest. Epigynum, fig. 94. Length, 6 mm.

Type: Female, No. 1434, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, April 4, 1921, at **Nogales, Arizona**. *Allotype*, Male, M. C. Z., collected at Patagonia, Arizona, in May, 1913, by R. V. Chamberlin.

96. *Ebo mexicanus* Banks

Proc. Cal. Acad. Sci., 1898, Ser. 3, I., p. 265, pl. 16, fig. 9.

Localities: Isla Raza, April 21, many; Isla Partida, April 22, many; Carmen Island, June 16, one female; Pond Island Bay, Angel de la Guarda Island, June 30, one female.

Previously recorded from Hermosillo, Mex. (type locality) and from New Mexico. The specimens here listed were secured chiefly in sweepings from *Erigeron*, *Atriplex*, etc.

97. *Thanatus peninsulanus* Banks

Proc. Cal. Acad. Sci., 1898, Ser. 3, I., p. 265, pl. 16, fig. 11.

Locality: San Pedro Martir Island, April 18, one female.

Previously known from the cape region (San Jose del Cabo) of Lower California.

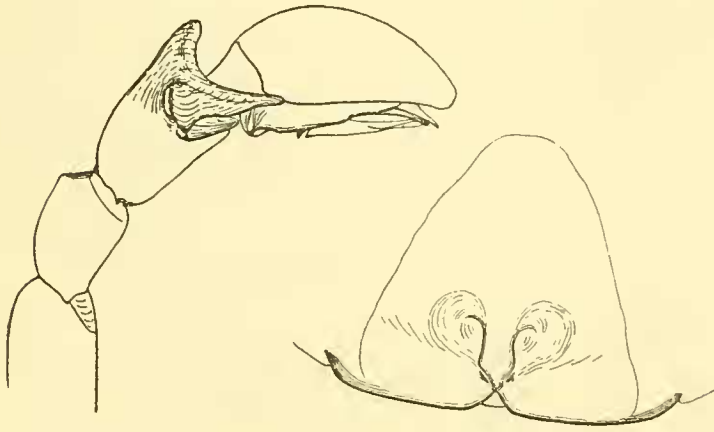
98. *Thanatus retentus* Chamberlin

Jour. Ent. and Zool., 1920, XII., p. 9, pl. 6, fig. 5.

Locality: Ensenada, April 7, one female.

This species is not uncommon in southern California but has not previously been recorded from elsewhere.

SELENOPIDÆ

99. *Selenops actophilus* Chamberlin, new species

95

96

Fig. 95. *Selenops actophilus*, right palp of male, ectal view.

Fig. 96. Epigynum.

Male: Coloration essentially as in *nesophilus*, but with the dark bands of the legs deeper and more sharply defined.

Posterior median eyes one-half the diameter of the anterior laterals; anterior median eyes decidedly less than their diameter apart. Ventral spines of anterior tibiæ and metatarsi as in *nesophilus*. This species is separated from *nesophilus* chiefly on the basis of the differences in the palpus, such as the different form of the tibial apophysis (fig. 95). Length, 9 mm.

Female: Epigynum as shown in fig. 96. Length, 10 mm.

Type: Male, No. 1435, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, July 7, 1921, at San Carlos Bay, Sonora. *Allotype*, female, No. 1436, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, July 7, 1921, at San Pedro Bay, with egg sack. *Paratypes* in Mus. Calif. Acad. Sci., and M. C. Z., Guaymas, April 14, 1921, two immature specimens.

100. *Selenops nesophilus* Chamberlin, new species

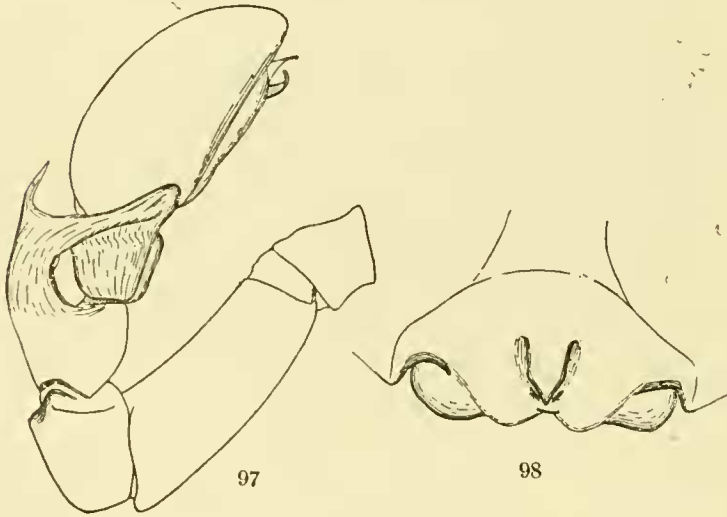


Fig. 97. *Selenops nesophilus*, right palpus of male, ectal view.

Fig. 98. Epigynum.

Female: Carapace brown, the sternum and coxæ of legs beneath more yellowish; legs light brown, femora with two dark cross bands over anterior and dorsal sides, the tibiæ with two complete dark annuli, the patellæ dark at proximal end; these annuli more pronounced in young specimens; abdomen dusky grey above, with a paler median dorsal mark at base; venter lighter grey.

Posterior median eyes less than half (14:32) the diameter of the medians to which they are closer than to the posterior laterals; anterior median eyes about their diameter apart. Tibiæ I and II with three pairs of long ventral spines of which two pairs are proximad of middle and one pair a little distad of middle; metatarsi I and II with two pairs of ventral spines of which the distal pair is near the middle. Epigynum, fig. 98. Length, 13.5 mm.

Male: Palpus as shown in fig. 97. Length, 13 mm.

Type: Female, No. 1437, and *allotype*, Male, No. 1438, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 11, 1921, on Tortuga Island, Gulf of California. *Para-*

types in Mus. Calif. Acad. Sci. and M. C. Z.; same data as type, three; Puerto Escondido, June 14, one female, E. P. Van Duzee; Isla Raza, April 21, five; Palm Cañon, Angel de la Guarda Island, May 3, one female; Santa Catalina Island, June 12, three.

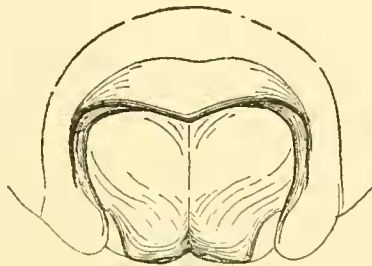
Selenops sp.

Immature specimens of *Selenops* not at present referable to their species were taken at the localities listed below.

Localities: San Pedro Bay, July 7, two; Agua Verde, May 26, four; Puerto Escondido, May 29, one; Loreto, May 19, one; Angeles Bay, May 25, two; La Paz, April 12, one; Mulegé, May 14, one; Isla Partida, April 22, two; San Pedro Nolasco Island, April 17, two, collected by J. C. Chamberlin and three by E. P. Van Duzee; San Esteban Island, April 20, four; San Pedro Martir Island, April 18, five; Monserrate Island, May 25, two; Danzante Island, May 24, two; San Josef Island, May 28, two; Carmen Island, May 21, one; Santa Inez, May 13, one; Sal-si Puedes Island, May 9, five; San Francisco Island, May 30, one; Ildefonso Island, May 17, one; Ceralbo Island, June 8, one; Concepcion Bay, June 17, one; North San Lorenzo Island, June 24, two; San Marcos Island, June 20, one; Smiths Island, June 27, two.; Willard's Point Bay, Tiburon Island, July 3, four.

HETEROPODIDÆ

101. *Olios positivus* Chamberlin, new species



99

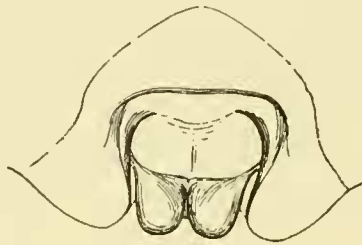
Fig. 99. *Olios positivus*, epigynum.

Female: Carapace dull yellow; sternum a lighter yellow; legs dull yellow above, a lighter yellow beneath; abdomen a dull or greyish yellow above, lighter beneath.

Anterior median eyes clearly less than their diameter from each other, nearer to the laterals, larger than the posterior medians; eyes of posterior row equidistant, the separation of each adjacent two being about twice the diameter of an eye. Characterized especially by the form of the epigynum, which is represented in fig. 99. Length, 8.5 mm.

Type: Female, No. 1439, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 30, 1921, on **San Francisco Island, Gulf of California**, together with two immature females.

102. *Olios scepticus* Chamberlin, new species



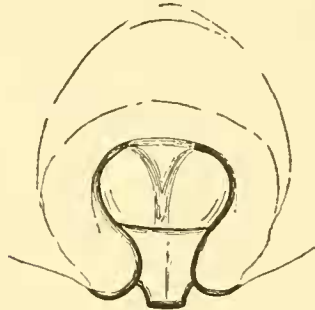
100

Fig. 100. *Olios scepticus*, epigynum.

Female: Carapace and chelicerae yellow of a somewhat reddish cast; sternum and coxae of legs beneath clear yellow; legs yellow, lighter below than above, especially the femora, as usual, finely dotted with brown; abdomen with lateral region of dorsum and the sides spotted with brown, the usual light mark at base above and the median dark line behind; venter immaculate.

Anterior median eyes larger than the laterals (diameters 17:15); separated from each other by less than their diameter (14:17) and about their radius from the laterals; eyes of posterior row essentially equidistant. Epigynum fig. 100. Length, 10 mm.

Type: Female, No. 1440, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 6, 1921, on **Ceralbo Island, Gulf of California**. *Paratype*, same data, one female.

103. *Olios naturalisticus* Chamberlin new species

101

Fig. 101. *Olios naturalisticus*, epigynum.

Female: Carapace yellowish, with longitudinal streaks of reddish brown on sides and posterior region of pars cephalica, and a similar brown stripe over anterior eye row and extending down to each anterolateral corner; sternum and coxæ of legs beneath clear yellow; legs yellow, darker above than below, spotted with brown, particularly on femora and tibiæ, the spots on the latter tending to form an annulus at base; abdomen above greyish yellow, spotted along sides with brown and spots also outlining a clear median mark at base, a narrow median longitudinal dark stripe posteriorly; venter lighter yellow, more weakly spotted behind.

Anterior median eyes a little larger than the laterals (17:15), separated from each other by about three-fourths their diameter, a little nearer to the laterals; posterior median eyes twice their diameter apart, nearer to the laterals. Epigynum as shown in fig. 101. Length, 10 mm.

Type: Female, No. 1441, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, July 4, 1921, at southern end of Tiburon Island, Gulf of California. *Paratypes*: Patos Island, April 23, 1921, three immature specimens.

104. *Olios pragmaticus* Chamberlin, new species

102

Fig. 102. *Olios pragmaticus*, epigynum.

Female: Carapace fulvous; sternum, coxæ and femora of legs beneath yellow; legs elsewhere fulvous, the tarsus and metatarsus darkened with dense scopulæ;

chelicerae black; abdomen above greyish yellow, with a sagittate outline at base followed by a median dorsal black line which is beaded; venter lighter yellow, immaculate.

Lower margin of furrow of chelicera with four teeth. Anterior median eyes only slightly larger than the laterals (about as 25:24), nearly three-fourths their diameter apart and not fully half as far from the laterals; posterior median eyes nearer to each other than to the laterals. Epigynum, fig. 102.

Length, 15.5 mm.

Type: Female, No. 1442, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 9, 1921, on **South San Lorenzo Island, Gulf of California** (with slight doubt). *Paratype*, M. C. Z. North San Lorenzo Island, May 25, 1921, one female with young.

Olios sp.

Immature specimens were taken at the localities listed below.

Localities: San Pedro Bay, July 7, one; San Carlos Bay, July 8, two; Tepoca Bay, April 25, one; La Paz, April 12, one; Angeles Bay, May 6, two; Tortuga Island, June 22, one, collected by E. P. Van Duzee; Angel de la Guarda Island, May 1, one; Cerralbo Island, June 7, one; Salinas Bay, Carmen Island, June 16, one.

CTENIDÆ

105. *Ctenus hybernalis* Hentz

Jour. Bost. Soc. Nat. Hist., 1844, IV, p. 393, pl. 19, figs. 1-4.

Two immature specimens, one from each locality given below, are referred with little doubt to this species.

Localities: San Pedro Bay, July 7; Tiburon Island, July 5.

This species occurs in the southern United States, Mexico, the West Indies, and possibly in South America.

CLUBIONIDÆ

106. *Chiracanthium inclusum* Hentz

Clubiona inclusa Hentz, Jour. Bost. Soc. Nat. Hist., 1847, V, p. 451, pl. 23, fig. 18.

Chiracanthium viride Emerton, Trans. Conn. Acad. Sci., 1889, VIII, p. 184, pl. 5, fig. 12.

Chiracanthium inclusum Simon, Proc. Zool. Soc., London, 1897, p. 878.

Locality: Pond Island Bay, Angel de la Guarda Island, June 30, one female in a nest made between leaves held together by silk.

This species is widespread in the United States and occurs as well in Mexico and through the West Indies.

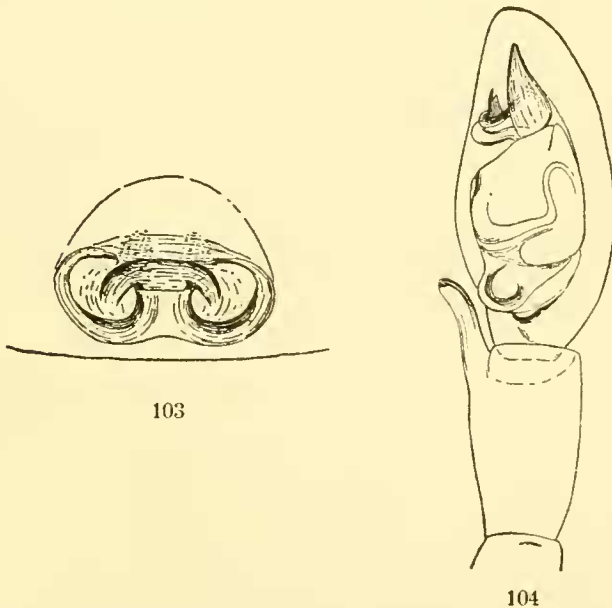
107. *Gayenna absoluta* Chamberlin, new species

Fig. 103. *Gayenna absoluta*, epigynum.

Fig. 104. Right palpus of male.

Female: Carapace dull brownish yellow; sternum and legs yellow; abdomen grey, with indistinct chevron marks on posterior portion of dorsum.

Posterior row of eyes a little procurved; median eyes about their diameter apart, a little nearer to the laterals; anterior median eyes less than their diameter apart, much closer to the larger lateral eyes.

Tibia I and metatarsus I with two pairs of spines beneath, one pair at base and one near middle. Posterior spiracle nearly midway between epigastric furrow and the spinnerets. Epigynum as shown in fig. 103. Length, 3.2 mm.

Male: Palpus as shown in fig. 104.

Length, 3 mm.

Type: Female, No. 1443, and *allotype*, male, No. 1444, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 17, 1921, at the little bay south of Guadalupe Point on the easterly shore of **Concepcion Bay, Lower California.**
Paratypes: Mus. Calif. Acad. Sci. and M. C. Z., same data as type, four.

108. *Anyphæna johnstoni* Chamberlin, new species

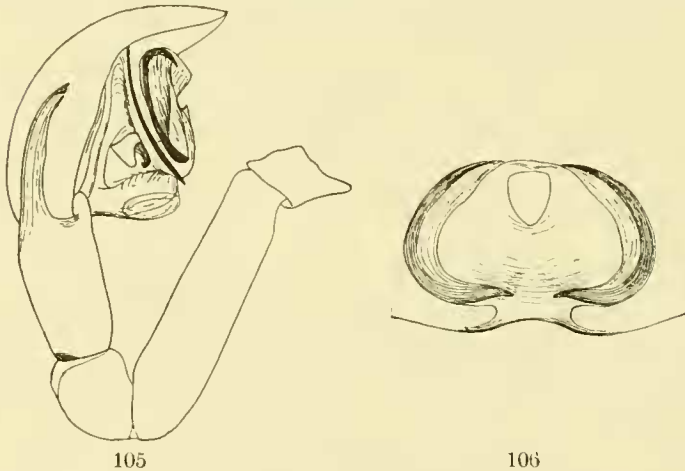


Fig. 105. *Anyphæna johnstoni*, right palpus of male, ectal view.

Fig. 106. Epigynum.

Female: Carapace fulvous, clypeus and part of eye region dusky; sternum and legs yellow; chelicerae black; abdomen grey laterally and at sides of dorsum, the middorsal region clearer yellow; venter with two, rather weak, longitudinal darker lines ending at the spiracle.

Anterior row of eyes straight or nearly so; eyes subequal, the medians separated by about their radius, closer to the laterals; posterior row of eyes a little procurved, its eyes equal and nearly equidistant, or the medians slightly farther from each other than from the laterals; lateral eyes on each side less than their radius apart. Metatarsi I and II with a pair of ventral spines at base. Tibia I with two pairs of spines beneath, one at base and one submedian, or the caudal spine of each pair missing; tibia II with a single sub-

median ventral spine. Posterior spiracle plainly in front of middle of abdomen. Epigynum, fig. 106. Length, 7 mm.

Male: Coloration as in the female. Both tibia I and tibia II with two pairs of spines beneath. Palpus, fig. 105. Length, 6.5 mm.

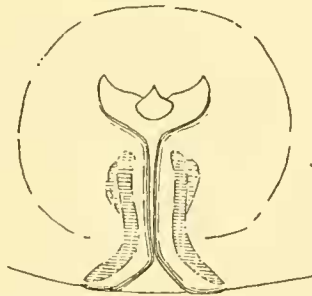
Type: Female, No. 1445, and *allotype*, male, No. 1446, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 17, 1921, on **San Pedro Nolasco Island, Gulf of California**. A male and female taken in a nest together under the loose-peeling bark of a tree identified by I. M. Johnston, who aided in the collecting, as *Acacia willardiana* Rose. The spider is said in a field note to match the color of the bark of this tree. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; Puerto Escondido, June 14, one male; San Marcos Island, May 12, two males swept from bushes by E. P. Van Duzee.

Anyphæna sp.

Immature specimens of uncertain species.

Locality; Concepcion Bay, June 17.

109. *Syspira analytica* Chamberlin, new species



107

Fig. 107. *Syspira analytica*, epigynum.

Female: Carapace with the usual wide median dorsal stripe, this fulvous, more reddish in head region; marginal stripes yellow, side bands black; sternum and coxæ of legs beneath brownish; legs a lighter brown, the femora much lighter beneath, all joints without trace of annuli; abdomen grey, the mid-dorsal region lighter, more yellowish.

Anterior row of eyes straight, the median eyes not at all larger than the laterals. Posterior laterals decidedly larger than the anterior laterals from which they are removed by less than their diameter. Epigynum, fig. 107.

Length, 15 mm.

Type: Female, No. 1447, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 9, 1921, on **Ballena Island, Gulf of California**. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; same data as type, four immature specimens; Angeles Bay, June 27, one female; Guaymas. April 14, one female; Ildefonso Island, May 17, several immature; West Las Galeras Island, June 13, one adult female and several immature.

This species differs from *S. tigrina* and *S. longipes* of Simon in having the anterior median eyes not at all larger than the laterals instead of clearly exceeding them.

110. *Syspira eclecticica* Chamberlin, new species

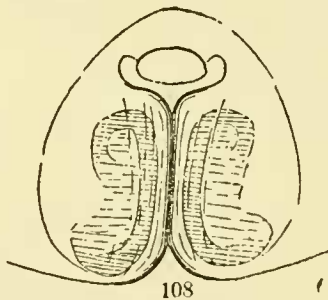


Fig. 108. *Syspira eclecticica*, epigynum.

Female: Carapace yellow, dusky over sides and dorsum, leaving a clearer yellow marginal border on each side but without the usual sharply defined median dorsal stripe; sternum and coxæ of legs beneath clear yellow; legs yellow, the femora with cross marks of dark above; abdomen dusky grey above, greyish yellow beneath.

Anterior row of eyes straight; median eyes much larger than the laterals, the ratio of diameters nearly as 11:8, separated from each other by less than their radius and nearly contiguous with the laterals; posterior lateral eyes much larger than the anterior laterals and separated from them by much less than their diameter; area of median eyes wider in front than behind (about as 23:21). Spining of legs as usual. Epigynum, fig. 108. Length, 14.5 mm.

Type: Female, No. 1448, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 10, 1921, on **San Josef Island, Gulf of California**. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; same data as type, two females, one male, immature; Isla Partida, June 25, one; South Santa Inez Island, May 13, one, E. P. Van Duzee.

This form seems obviously distinct from the other species in its eye relations. In the relative proportions of the anterior eyes it suggests *S. tigrina* Simon, but the lateral eyes on each side are decidedly less than their diameter apart instead of being much more than this distance from each other.

III. *Syspira synthetica* Chamberlin, new species

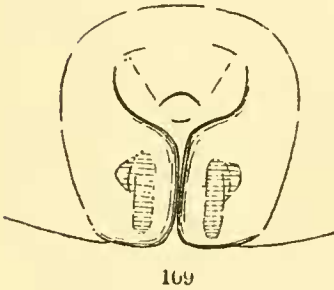


Fig. 109. *Syspira synthetica*, epigynum.

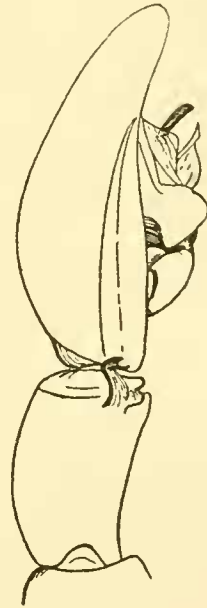


Fig. 110. Right palpus of male, ectal view.

Syspira tigrina Banks (not of Simon), Proc. Cal. Acad. Sci., 1898, Ser. 3, I, p. 226.

Syspira longipes Banks (not of Simon), *ibid.*, p. 227.

Female: Coloration in general similar to that of *analytica* but integument of median stripe of carapace and that of sternum without a reddish cast; dorsum of abdomen sometimes showing many black spots on each side; legs differing from those of *analytica* in being conspicuously annulate with black; two bands on femora, incomplete on anterior pairs but with the more distal one typically complete on the posterior pairs; tibiæ III and IV with a conspicuous annulus at base, that of the fourth more strongly marked, and commonly a less obvious one toward distal end.

Anterior row of eyes slightly procurved, the medians, if any different, slightly smaller than the laterals; laterals less than their diameter apart, the posterior a little the larger. Epigynum, fig. 109. Length, 12 mm.

Male: Palpus, fig. 110. Length, 9.5 mm.

Type: Female, No. 1449, and *allotype*, male, No. 1450, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 23, 1921, on Patos Island, Gulf of California. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z. (male, female); Guaymas, April 9, ten, E. P. Van Duzee; San Francisquito Bay, May 10, one, immature; Puerto Escondido, June 14, one male; San Jose del Cabo, several, male and female (M. C. Z.); Pelican Island, July 6, three, immature; San Josef Island, June 10, three; East Las Galeras Island, June 13, three, immature; Mejia Island, April 30, two, immature.

Like *analytica*, this species differs from the two described from Lower California by Simon in not having the anterior median eyes larger than the laterals. A smaller form than *analytica* differing at sight in the annulation of the legs which shows in all stages of development. The epigyna of these species differ in the form of the tubes.

112. *Syspira longipes* Simon

Bull. Soc. Zool. de France, 1895, p. 136.

Locality: Guaymas, April 12, one immature male taken by E. P. Van Duzee.

This specimen, though immature, is referred to *S. longipes* largely because of agreement in the exceptionally large size of the anterior median eyes.

Syspira sp.

Immature specimens not referable with certainty to species were taken at the localities listed below.

Localities: San Pedro Bay, July 7, one; Guaymas, April 14, four; Arroyo de Gua, 10-15 miles north of Loreto, May 29, two; Agua Verde Bay, May 26, two; Angeles Bay, June 25, one; Loreto, May 19, one; Las Animas Bay, May 8, one; Santa Inez Island, May 13, four; Pond Island Bay, Angel de la Guarda Island, June 30, two; North San Lorenzo Island, June 24, one; Puerto Ballandra, Carmen Island, May 21, two; San Diego Island, May 27, two; Sal si Puedes Island, May 9, two; Tiburon Island, July 3, 5, three; Espiritu Santo Island, June 1, three; Santa Cruz Island, May 11, two females; Ceralbo Island, June 5, six; Ildefonso Island, May 17, one.

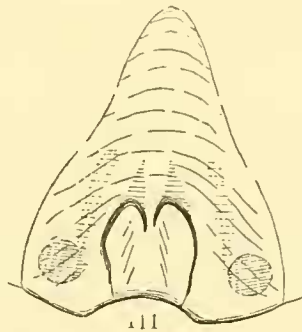
113. *Chemmis monisticus* Chamberlin, new species

Fig. 111. *Chemmis monisticus*, epigynum.

Female: Sides of carapace chocolate brown, the border on each side yellowish, enclosing a series of marginal dark spots; a median dorsal reddish yellow stripe as wide anteriorly as the eye area and there enclosing a pair of dark spots; sternum and coxæ of legs beneath pale yellowish brown; chelicerae, labium and endites dark chocolate, the two latter paler across distal ends. Legs brown; femora with a wide dark band at middle and a similar one at distal end; patella mostly covered with a broad black annulus, and the tibia with two; entire metatarsi dark. Abdomen above and laterally nearly black, a median longitudinal pale line or stripe crossed by pale chevrons excepting toward spinnerets and at extreme anterior end; venter yellow, with a pair of longitudinal dusky stripes; the sides of abdomen with black broken into numerous dots.

Lower margin of furrow of chelicera with two teeth, the upper with three. Spines of legs normal. Epigynum as shown in fig. 111. Length, 10.5 mm.

Type: Female, No. 1451, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, July 7, 1921, at **San Pedro Bay, Sonora.**

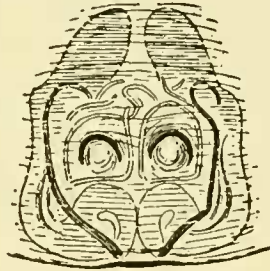
Distinguished clearly from *C. frederici* Simon in the form of the epigynum as well as in the color pattern.

114. *Anachemmis sober* Chamberlin

Jour. Ent. and Zool., 1920, XII, p. 13, pl. 5, fig. 5.

Locality: Ensenada, April 7, one immature female apparently this species. Previously known from southern California, near Claremont.

115. *Trachelas speciosus* Banks



112

Fig. 112. *Trachelas speciosus*, epigynum.

Proc. Cal. Acad. Sci., 1898, ser. 3, I, p. 225, pl. 14, fig. 32.

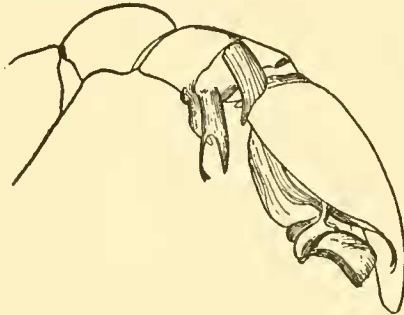
Localities: Angeles Bay, May 5, three females; Las Animas Bay, May 8, two females taken by V. Owen and J. C. Chamberlin at a fresh-water well a mile from the beach; Mulegé, May 14, one female; Tiburon Island, July 5, one female.

This species was described from Magdalena Island and El Taste. It has not previously been recorded from elsewhere, but it is quite likely widespread about the Gulf of California; most of the immature specimens recorded below probably pertaining to it.

Trachelas sp.

Immature specimens not specifically identifiable.

Localities: Angeles Bay, May 6, one; San Francisquito Bay, May 10, two; San Evaristo Bay, May 10, one; Puerto Escondido, June 14, one.

116. *Corinna epicureana* Chamberlin, new species

113

Fig. 113. *Corinna epicureana*, right male palpus, ectal view.*

Male: Carapace light brown, dusky over anterior portion of head. Chelicerae blackish; sternum somewhat reddish yellow; legs yellow; abdomen yellowish grey.

Anterior row of eyes slightly procurved, median eyes about their radius apart, closer to the smaller laterals; posterior row of eyes nearly straight; median eyes clearly nearer to each other than to the laterals. Lower margin of the furrow of chelicera with five teeth. Metatarsi I and II armed below with two pairs of spines; tibia I armed with four pairs of ventral spines; tibia II with three pairs of ventral spines. Palpus, fig. 113. Length, 5 mm.

Type: Male, No. 1452, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, July 8, 1921, at **San Carlos Bay, Sonora.**

***Corinna* sp.**

Locality: Angeles Bay, May 6, one immature female of uncertain species.

AGELENIDÆ

117. *Cybaeus tardatus* (Chamberlin)

Parauximus tardatus Chamberlin, Jour. Ent. and Zool., 1920, XII, p. 3, pl. 1, fig. 2.

Locality: Ensenada, April 7, one male.

Known previously from the type, which was taken at Claremont, Cal.

118. *Agelena nævia* Walckenaer

Ins. Apt., 1837, 2, p. 24.

Locality: Ensenada, April 7, one female.

***Agelena* sp.**

Immature specimens not certainly referable to their species.

Localities: Angeles Bay, May 5; Las Animas Bay, May 8; La Paz, April 11; South San Lorenzo Island, May 9; Pond Island Bay, Angel de la Guarda Island, May 3; San Esteban Island, April 20; Carmen Island, May 21.

119. *Chorizomma californicum* Simon

Bull. Soc. Zool. Fr., 1895, XX, p. 136.

Locality: Ensenada, April 7, one female.

***Cœlotes* sp.**

An immature female not referable to its species.

Locality: South San Lorenzo Island, May 9.

LYCOSIDÆ

120. *Pardosa sternalis* Thorell

Lycosa sternalis Thorell, Bull. U. S. Geol. Geog. Survey, 1877, III, p. 504.

Pardosa coloradensis Banks, Jour. N. Y. Ent. Soc., 1894, II, p. 51.

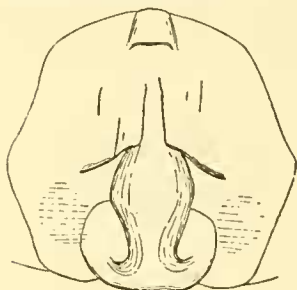
Pardosa peninsulana Banks, Proc. Cal. Acad. Sci., 1898, Ser. 3, I, p. 275, pl. 16, fig. 22.

Lycosa seydi Strand, Jahrb. Nassau Ver. Naturh., 1908, LXI, p. 258.

Locality: La Paz, two females.

Cotypes of *P. peninsulana* Banks in the M. C. Z. are this species. They were taken at San Jose del Cabo, Lower California.

This is a very common species in the western United States.

121. *Pardosa orthodox* new species

114

Fig. 114. *Pardosa orthodox*, epigynum.

Female: Carapace black, with a median, dagger-shaped, yellow or orange stripe which is narrowly produced between the posterior eyes, and a supra-marginal stripe of yellow on each side and over clypeus, a dark mark on clypeus below eyes on each side; chelicerae somewhat orange. Sternum and coxae beneath clear yellow. Femora clear yellow below but with distinct cross bands of black dorsally, the more distal joints dusky over yellow. Dorsum of abdomen black with a yellow sagittate mark at base followed by pairs of ocellate yellow spots which, excepting the first one or two, are united mesally to form cross-marks. Venter clear yellow.

Anterior row of eyes procurved, equal in length to distance between centers of eyes of second row; medians greatly exceeding the laterals in size, separated from each other by about three fourths their diameter and from the laterals by less than their radius. Upper margin of furrow of chelicera with two teeth, the lower with three, of which the most proximal is much reduced. Epigynum, fig. 114. Length, 5.5 mm.

Type: Female, No. 1453, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 14, 1921, at Mulegé, Lower California. *Paratype* in M. C. Z.; same data, one female.

A species belonging in the *sternalis* group and distinguishable most easily by the form of the epigynum.

122. *Pardosa sabulosa* Banks

Pardosa sabulosa Banks, Proc. Cal. Acad. Sci., 1898, Ser. 3, I, p. 273, pl. 16, fig. 28.

Pardosa sierra Banks, *ibid.*, p. 274, pl. 16, fig. 20.

Localities: Angeles Bay, June 25, 27, about a dozen females, several of which are immature; Mulegé, May 14, one female taken by E. P. Van Duzee; Puerto Escondido, June 14, about twelve specimens; San Marcos Island, May 12, one adult and two immature females.

Comparison of cotypes of *P. sabulosa* and *P. sierra* in the M. C. Z. shows them to present no specific differences. The species is known only from Lower California and the adjacent islands.

123. *Lycosa concolor* Banks

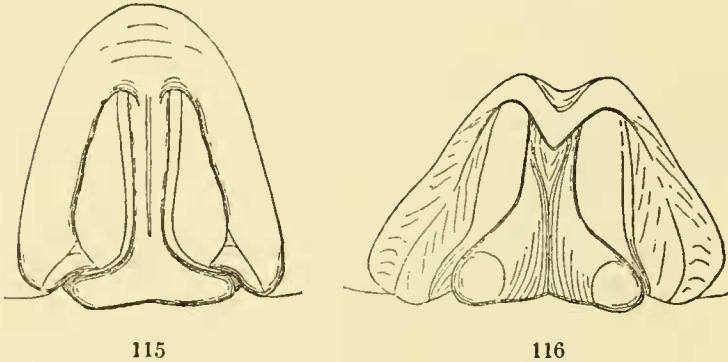


Fig. 115. *Lycosa concolor*, epigynum of specimen from Mulegé.

Fig. 116. Epigynum of a not fully mature female from Tortuga Island, more enlarged.

Lycosa concolor Banks, Proc. Cal. Acad. Sci., 1898, Ser. 3, I, p. 269, pl. 16, fig. 25 (immature.)

Lycosa persimilis Banks, *ibid.*, p. 270, pl. 17, fig. 2.

Female: Carapace brown, with a median dorsal lighter stripe narrowing forward between the eyes and a light supramarginal stripe on each side; sternum and coxæ of legs beneath blackish; chelicerae also black or mahogany colored. Legs light brown, with tibiae IV black at both ends and femur IV with several black spots above. Dorsum of abdomen dark, with a light colored basal mark and some oblique light lines at its side and forming a few chevrons behind it; sides of abdomen light, and the venter solid black.

The anterior row of eyes much shorter than the second; procurved; median eyes nearly their radius apart and an equal distance from the laterals, which are smaller and are less than their diameter from the lower margin of the clypeus.

Upper and lower margins of furrow of chelicera each with three teeth. Tibiæ III and IV each with two median dorsal spines. Epigynum, adult, fig. 115; immature, fig. 116.

Length, 20 mm.; cephalothorax, 10.2 mm.; tibia + patella IV, 11 mm.

Localities: Angeles Bay, June 25, one not quite mature female; Tortuga Island, May 11, two adult males and seven mostly immature females taken by E. P. Van Duzee and J. C. Chamberlin.

The type of *L. concolor* was obviously not fully mature as judged from the drawing of its epigynum, which represents the stage shown in fig. 116. The matured epigynum is of the form shown in fig. 115. The species occurs also on the eastern side of the Gulf of California (Tepic).

124. *Lycosa carolinensis* Walckenaer

Ins. Apt., 1837, I, p. 285.

Localities: Nogales, Arizona, April 3, one immature male, E. P. Van Duzee; Guaymas, April 14, one; San Nicolas Bay, May 16, one immature male.

The specimen from Nogales has the venter mostly pale. The one from San Nicolas Bay, which was taken from an 8 in. burrow, has the venter black in front of the epigastric furrow and in a median band extending back to the spinnerets. The individual from Guaymas, which was also taken from its tunnel, has the venter colored similarly to the preceding but with the median band narrower, more line-like.

125. *Arctosa littoralis* Hentz

Lycosa littoralis Hentz, Bost. Soc. Nat. Hist., 1844, IV, p. 388, pl. 17, fig. 9.

Lycosa maritima Hentz, *ibid.*, p. 389, pl. 17, fig. 10.

Lycosa cinerea Emerton (*nec* Fabricius), Trans. Conn. Acad. Sci., 1885, VI, p. 488, pl. 47, fig. 3.

Lycosa cinerea Chamberlin (*nec* Fabricius), Proc. Acad. Nat. Sci., Phil., 1908, LX, p. 305, pl. 20, fig. 6, but not fig. 5.

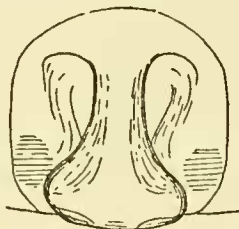
Localities: San Pedro Bay, July 7; Mulegé, May 14, one adult female and several immature specimens; Angeles Bay, June 25, numerous males and females; El Candeleros Bay, Espiritu Santo Island, May 9.

American authors have uniformly followed Emerton in an erroneous identification of our common American *Arctosa* with the European form named *Aranea cinerea* by Fabricius and subsequently called *Lycosa lynx* by Hahn and *Lycosa allodroma* by Walckenaer. A brief comparison of the copulatory organs of the American and European forms is sufficient to show conspicuous differences. Thus in the epigynum of the true *cinerea* the median septum is a simple ridge

acutely pointed behind, with no cross piece, thus leaving the lateral cavities widely open posteriorly. In the American form the septum has an always strongly developed caudal expansion or cross piece so that it appears inversely T-shaped or anchor shaped. Equally clear differences are presented by the palpi. Accordingly Hentz's name *littoralis* is here adopted for the American form.

The large series of specimens taken at Angeles Bay, was collected at night on the beach at the high tide level. Some of these are said to have been feeding on copepods.

126. *Sosippus pragmaticus* Chamberlin, new species



117

Fig. 117. *Sosippus pragmaticus*, epigynum.

Female: Under alcohol the carapace is chocolate brown, with a fine median longitudinal light line and a wider light band above each lateral margin, these light bands clothed with white hair; chelicerae black; sternum yellowish brown; legs also yellowish brown, indistinctly marked, or imperfectly ringed with dark, but these markings usually vague.

Abdomen light colored below, more greyish brown on the sides and above, but with numerous fine light dots and a longitudinal median dorsal, deep brown, stripe crossed behind by pale chevron lines that have their ends on light spots; some corresponding light spots anteriorly are without the connecting chevrons; these chevrons and spots and the sides of dorsum adjacent to the median band are clothed in life with white hair.

Anterior row of eyes procurved; median eyes larger than the laterals, their radius or a little more apart and nearly twice as far from the laterals.

Lower margin of furrow of chelicera with only three teeth of which the middle one is smallest. Upper margin of furrow with three teeth. Epigynum, fig. 117. Length, 17 mm.

Type: Female, No. 1454, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, July 8, 1921, at San Carlos Bay,

Sonora. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; same data as type, four, mostly immature; San Pedro Bay, July 7.

This is a larger species than *S. floridanus* and differs in having only three teeth on the lower margin of the furrow of the chelicera instead of four. It differs from *S. californicus* Simon in having the anterior median eyes larger than the laterals. The field notes indicate that this species conforms to the general web building habits of the genus, the web being of the type constructed by agelenids. The egg-sac is not attached to the spinnerets as usual in the Lycosidæ.

OXYOPIDÆ

127. *Peucetia viridans* Hentz

Oxyopes viridans Hentz, Jour. Bost. Soc. Nat. Hist., 1845, V, p. 195, pl. 17, f. 2.

Peucetia aurora McCook, Ann. and Mag. Nat. Hist., 1883, Ser. 5, XIII, p. 231.

Localities: Concepcion Bay, June 17, 1921, many, mostly immature, "collected at the little bay south of Point Guadalupe;" Mulegé, May 14, 1921, three immature, E. P. Van Duzee; Puerto Escondido, June 14, 1921, one; San Marcos Island, May 12, 1921, two swept from bushes by E. P. Van Duzee; June 19, three; Puerto Ballandra, Carmen Island, May 21, 1921, six; Marquer Bay, Carmen Island, May 23, 1921, one; Pond Island, July 2, 1921, two immature.

An abundant species across the southern United States and found also in the West Indies and as far south as Central America.

128. *Oxyopes actophilus* Chamberlin, new species

Female: Carapace black on the sides, clypeus, and in the eye-region; a wide median dorsal yellow stripe which sends a narrow tongue on each side forward beneath the lateral eye and more or less connected with a vertical stripe on each side of clypeus which also is crossed by a vertical median yellow line; a yellow band along each lateral border more or less broken by black lines from black area of side; sternum yellow. Legs with general color yellow; with femora mostly black except proximally where the black is broken; tibiæ also largely black and metatarsi with three black annuli. Dorsum of abdomen yellow, with a blackish median dorsal sagittate mark which is narrow

and ends acutely midway between middle and spinnerets; sides black; venter yellow, with two longitudinal black lines united behind in a black area adjacent to spinnerets.

Abdomen rather narrow, narrowing caudad from middle. Length, 3 mm.

Type: Immature female, No. 1455, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 11, 1921, on **Tortuga Island, Gulf of California**. *Paratypes*: San Francisquito Bay, May 10, one; Coronados Island, May 18, one immature female.

129. *Oxyopeidon absolutum* Chamberlin, new species

Female: Carapace black, somewhat lighter, more brownish, above; sternum and coxæ of legs beneath yellow; femora of legs yellow, with anterior surface, at least at distal end, black; patellæ, tibiæ and metatarsi blackish; abdomen blackish above and laterally, a light spot of whitish scales on each side of dorsum; venter and lower part of anterior face of abdomen clear yellow.

Anterior row of eyes strongly recurved, the eyes equidistant. Cephalothorax high behind, the posterior declivity vertical or nearly so, but the dorsal line highest at posterior eyes.

Abdomen of moderate length, subacutely narrowed from the middle caudad, the spinnerets at caudal end. Length, 5 mm.

Type: Immature female, No. 1456, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 19, 1921, on **San Esteban Island, Gulf of California**. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; same data as type, 13 immature females; Concepcion Bay, June 17, one immature female; Puerto Escondido, June 14, one immature female; Palm Cañon, Angel de la Guarda Island, May 3, one immature female; San Josef Island, June 10, four immature females.

130. *Oxyopeidon absolutum obliquum* Chamberlin, new subspecies

Female (immature): Differs from the type form in coloration. The carapace presents a conspicuous white stripe running obliquely up the side of the clypeus and backward to the posterior declivity on each side. This stripe is bordered below by a deep black band above the lighter border.

Length, 4.2 mm.

Type: Immature female, No. 1457, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 18, 1921, on **Coronados Island, Gulf of California.**

131. ***Hamataliwa positiva* Chamberlin, new species**



118

Fig. 118. *Hamataliwa positiva*, epigynum.

Female: Carapace brown, dusky over sides and in eye-region, clothed throughout with grey hair; sternum and legs light brown. Integument of abdomen brown, with a median dorsal dark stripe and some chevron marks behind; sides dusky; venter much lighter at sides, with a median brown band behind epigynum that ends in a point at spinnerets; abdomen clothed with grey hair.

Eyes in general as in *H. grisea*. Epigynum, fig. 118. Length, 9 mm.

Type: Female, No. 1458, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, July 7, 1921, at **San Carlos Bay, Sonora.**

In size, coloration, and general appearance resembling *H. grisea* Keyserling, but readily distinguished by the different form of the epigynum.

***Hamataliwa* sp.**

Two immature specimens which cannot certainly be placed in their species.

Locality: Tortuga Island, June 22.

ATTIDÆ

132. *Thiodina sylvana* Hentz

Attus sylvanus Hentz, Jour. Bost. Soc. Nat. Hist., 1845, V, p. 364, pl. 22, fig. 10.

Attus retarius Hentz, *ibid.*, 1850, VI, p. 288, pl. 10, fig. 11.

Thiodina sylvana Peckham, Trans. Wisc. Acad. Sci., 1909, XVI, p. 450, pl. 35, fig. 9.

Localities: San Carlos Bay, July 8, one immature female, E. P. Van Duzee; Las Animas Bay, May 8, one; Concepcion Bay, June 18, one; Angeles Bay, June 27, one; Tiburon Island, July 5, two.

A species found across the southern section of the United States and southward through Mexico and the West Indies to Panama.

133. *Salticus scenicus* (Clerck)

Araneus scenicus Clerck, Aran. Svec., 1757, p. 117.

Salticus scenicus Latreille, Nouv. Dict. Hist. Nat., 1804, XXIV, p. 135.

Locality: Guaymas, April 14, one.

This species occurs in Europe and Africa as well as throughout North America.

134. *Salticus palpalis* (Banks)

Epiblemum palpalis Banks, Proc. Cal. Acad. Sci., 1904, Ser. 3, III, p. 360, pl. 39, fig. 31.

Salticus palpalis Peckham, Trans. Wisc. Acad. Sci., 1909, XVI, p. 477, pl. 42, figs. 10-10a; pl. 44, figs. 7-7a.

Locality: San Luis Gonzaga Bay, April 29, one.

Previously known from California.

135. *Marpissa californica* Peckham

Marpissa californica Peckham, Trans. Wisc. Acad. Sci., 1888, VII, p. 81, pl. 1, fig. 61; pl. 5, fig. 61; pl. 6, fig. 61.

Marpissa minor F. Cambridge, Biol. Centr. Amer. Arach., 1901, II, p. 250, pl. 22, figs. 5, 6.

Marpissa californica Peckham, Trans. Wisc. Acad. Sci., 1909, XVI, p. 482, pl. 39, fig. 2; pl. 40, fig. 2.

Localities: Angeles Bay, May 5, one; Las Animas Bay, May 8, one; San Francisquito Bay, May 10, one; Agua Verde Bay, May 26, one; South San Lorenzo Island, May 9, one; Coronados Island, May 18, one; Puerto Ballandra, Carmen Island, May 21, one; Espiritu Santo Island, June 8, one.

A species ranging from Central America northward to Utah and Oregon.

136. *Menemerus bivittatus* Dufour

Salticus bivittatus Dufour, Ann. Sci. Nat., 1831, p. 15, pl. 2, fig. 5.

Salticus melanognathus Lucas, Hist. Iles Canar., 1839, II, p. 29, pl. 7, fig. 4.

Menemerus bivittatus Simon, Hist. Nat. Ar., 1901, II, p. 603-604, 611.

Marpissa melanognatha Peckham, Trans. Wisc. Acad. Sci., 1909, XVI, p. 483, pl. 39, fig. 3; pl. 11, fig. 3. (See this reference for full synonymy.)

Locality: Guaymas, April 14, one female.

A cosmopolitan species.

137. *Icius vitis* Cockerell

Dendryphantes vitis Cockerell, Entomologist, 1894, XXVII, p. 207.

Icius vitis Peckham, Trans. Wisc. Acad. Sci., 1909, XVI, p. 501, pl. 40, fig. 11, pl. 41, fig. 7.

Locality: Mulegé, May 14, several.

A species widespread in the southwestern United States and also previously known from Mexico.

138. *Icius ildefonsus* Chamberlin, new species



119

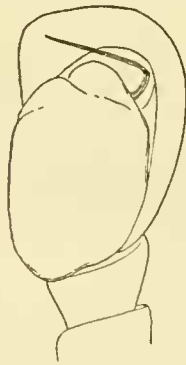
Fig. 119. *Icius ildefonsus*, epigynum.

Female: Carapace black, clothed sparsely with white hairs. Legs yellow; femora and tibiae with a black longitudinal line on anterior side, that on second

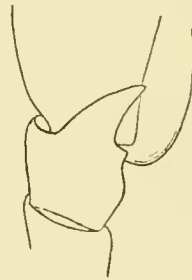
pair, however, present only at distal end; a similar line on posterior side of femora, but this restricted to distal end excepting on first pair; a black line also on posterior side of tibia I; sternum and chelicerae black. Abdomen black beneath and on the sides; dorsum with a white longitudinal band on each side and a black median band, which is notched on the sides, across the posterior portion in particular. Epigynum, fig. 119. Length, 4 mm. Cephalothorax, 1.9 mm.

Type: Female, No. 1459, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 17, 1921, on **Ildefonso Island, Gulf of California**. Swept from bushes.

139. *Wala pœnitens* Chamberlin, new species



120



121

Fig. 120. *Wala pœnitens*, right palpus of male, ventral view.

Fig. 121. Tibia and base of tarsus of same, ectal view.

Male: Carapace dark, the upper part of each side forward to area beneath anterior lateral eye in front clothed with white hair which is densest anteriorly. First legs dark brown or blackish, the others yellow, without markings; sternum dark. Abdomen deep black beneath and on the sides and also over the dorsum except a light colored band on each side from anterior end back to spinnerets and a light spot in middle; dorsum clothed with iridescent scales.

Chaliceræ very oblique, anterior face flattened, a fringe of white hair along outer side; claw slender, curved toward base and toward tip, the intervening portion nearly straight. Palpus as shown in fig. 120.

Length, 3.9 mm.; cephalothorax, 1.8 mm.

Type: Male, No. 1460, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, April 12, 1921, at **Guaymas, Sonora**.

140. *Phidippus arizonensis* Peckham

Attus arizonensis Peckham, New or little known Attidæ, 1883, p. 13.

Phidippus arizonensis Peckham, Trans. Wisc. Acad. Sci., 1888, VII, p. 18.

Phidippus tuberculatus F. Cambridge, Biol. Centr. Arach., 1901, II, p. 283.

Localities: Ensenada, April 7, one; San Nicolas Bay, May 16, one; Guaymas, April 9, one; San Pedro Bay, July 7; San Pedro Nolasco Island, April 17; San Esteban Island, April 19, three; Carmen Island, May 21, one female, E. P. Van Duzee; Espiritu Santo Island, June 1, one; Tiburon Island, July 5, one.

Previously known from Texas, Arizona, California, and from several points in Mexico.

141. *Phidippus formosus* Peckham

Attus formosus Peckham. New or little known Attidæ, 1883, p. 23.

Phidippus formosus Peckham, Trans. Wisc. Acad. Sci., 1909, XVI, p. 407, pl. 31, fig. 2.

Locality: Ensenada, April 7, one specimen.

142. *Phidippus johnsonii* Peckham

Attus johnsonii Peckham. New or little known Attidæ, 1883, p. 22, fig. 17.

Phidippus johnsonii Peckham, Trans. Wisc. Acad. Sci., 1888, VII, p. 20, pl. 1, fig. 14, pl. 14, fig. 14.

Locality: Nogales, Arizona, April 4, two females, E. P. Van Duzee.

143. *Phidippus tyrelli* Peckham

Trans. Wisc. Acad. Sci., 1901, XIII, p. 296, pl. 24, fig. 4.

Phidippus montivagus Peckham, *ibid.*, p. 293, pl. 24, fig. 3.

Phidippus albulatus F. Cambridge, Biol. Centr. Amer. Arach., 1901, II, p. 285, pl. 27, fig. 9.

Locality: Pond Island, June 30, one.

Previously recorded from Canada and the Rocky Mountain States and from Mexico.

144. *Dendryphantes imperialis* Peckham

Attus imperialis Peckham, Trans. Wisc. Acad., 1888, VII, p. 44, pl. 3, fig. 31.

Dendryphantes manni Peckham, *ibid.*, 1900, XIII, p. 326, pl. 28, fig. 1.

Dendryphantes imperialis Peckham, *ibid.*, 1909, XVI, p. 459, pl. 37, fig. 2.

Localities: La Paz., April 11, 1919, one immature; San Luis Gonzaga Bay, April 29, two; San Francisquito Bay, May 10, eight young; Salinas Bay, Car-

men Island, June 17, one adult male; Concepcion Bay, June 18, one male; Marquer Bay, Carmen Island, May 23, one; Espiritu Santo Island, June 1, one; Ceralbo Island, June 7, one; San José Island, June 10, one; Puerto Refugio, Angel de la Guarda Island, June 29, many.

It seems obvious that this species, previously recorded only from Arizona and California, is a very common form in Lower California and on the islands of the Gulf. Most males in the present collection have the clypeus wholly white.

145. *Dendryphantes limbatus* Banks

Philaus limbatus Banks, Proc. Cal. Acad. Sci., 1898, Ser. 3, I, p. 282, pl. 17, fig. 17.

Philaus consimilis Banks, *ibid.*, p. 283, pl. 17, fig. 13.

Dendryphantes limbatus Peckham, Trans. Wisc. Acad. Sci., 1900, XIII, p. 315.

Localities: Puerto Ballandra, Carmen Island, May 21, one male taken by E. P. Van Duzee; Espiritu Santo Island, June 1, one male.

Previously reported from Mexico and Texas.

146. *Dendryphantes carmenensis* Chamberlin, new species

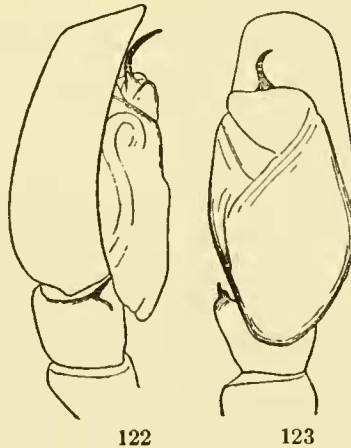


Fig. 122. *Dendryphantes carmenensis*, right male palp, ectal view.

Fig. 123. Same, ventral view.

Male: Cephalothorax with lower part of sides dark, the upper part clothed with white hair forming a band beneath eyes and extending caudad upon posterior declivity; clypeus fringed with white hair below; anterior face of chelicerae clothed with white hair and scales above. Legs yellow, strongly annulate with black; femora of first legs almost wholly black except a light spot at distal end above, the femora of the other legs with a broad black

annulus nearer distal than proximal end; patellæ with annulus at distal end; tibiæ with annulus at both ends but that at proximal end narrow; metatarsi and tarsi not annulate. Dorsum of abdomen chocolate colored, the dark area enclosing paired light spots which are more line-like on posterior portion; a band of white hair across anterior face and along each side adjacent to the dark dorsal area; the lower part of sides dark; venter pale. The coloration in general nearly as in *æneolus* and other members of the *capitatus* group.

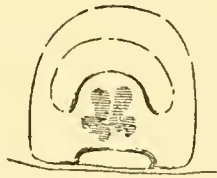
Chelicerae vertical. Ventral spines of tibia I 3-3, evenly paired, the first pair being but little proximad of middle. Ventral spines of tibia II 3-1, the single spine under posterior border at distal end; one spine on upper part of anterior side of this joint. Palpus, fig. 122 and 123.

Length, 4.5 mm. Cephalothorax, 2 mm.

Type: Male, No. 1461, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 16, 1921, at Salinas Bay, **Carmen Island, Gulf of California.**

In general appearance suggesting *imperialis* (Peckham) and nearly related species but readily distinguished in having a curved embolus of the *militaris* type in the male palpus. It differs also, e. g., in the ventral spines of tibia I, these in *imperialis* not being so nearly evenly paired, the first spine under the posterior border being obviously farther proximad than in *carmenensis*.

147. *Dendryphantes chera* Chamberlin, new species



124

Fig. 124. *Dendryphantes chera*, epigynum.

Female: Under alcohol the integument is chestnut or darker, typically blackish about the eyes or over the dorsal area of the head; it is clothed with nearly white hair, with longer black bristles near the eyes; clypeus clothed with white hair; chelicerae with white scales at base. Legs yellow, with annuli absent or obsolete. Sternum yellowish, dusky about the periphery. Abdomen under alcohol pale throughout, yellow or yellowish white, or a little dusky above; without markings or with a dark patch across anterior end; the types rubbed so that character of hair cannot be ascertained, but it appears to have been in part yellow on the dorsum.

Spines of tibia I beneath 3-3, evenly paired; spines of tibia II beneath 1-3, the three under the posterior border being in series, with the distal one paired with the one under the anterior border. Epigynum, fig. 124.

Length, 4.5 mm. Cephalothorax, 1.72 mm.

Type: Female, No. 1462, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 10, 1921, on **San Josef Island, Gulf of California**. *Paratypes*: Mus. Calif. Acad. Sci. and M. C. Z.; San Diego Island, June 11, one female; Tortuga Island, June 22, one female, E. P. Van Duzee; San Francisco Bay, June 23, one female.

148. *Dendryphantès melanomerus* Chamberlin, new species

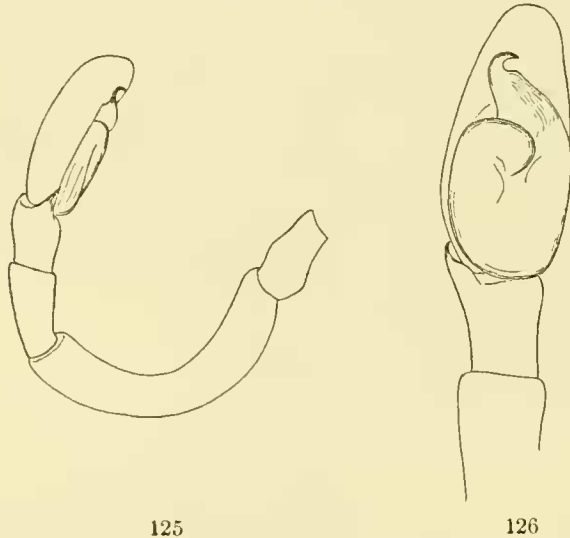


Fig. 125. *Dendryphantès melanomerus*, right palpus of male, ectal view.

Fig. 126. Same, ventral view.

Male: Carapace dark; head black, clothed above with iridescent scales, the lower border clothed with white scales, white band narrowing and running out cephalad. Femora of all legs dark, blackish, the patellæ, tibiæ and metatarsi usually also in some degree darkened, the dark areas being longitudinal, never annuliform. Abdomen dark below and over sides, the dorsum somewhat lighter and clothed with iridescent scales; a rather narrow light stripe across anterior end and extending back on each side toward middle; on posterior half a vertical white stripe up each side and reaching a little way on dorsum.

Chelicerae oblique, moderately long; the fang long, constricted near base, and then of nearly uniform diameter to the attenuated distal portion. Spines under tibia I 3-3, all short, the three anterior ones stouter and closer together;

spines under tibia II 1-3, the three being under the posterior border. The palpus as shown in figs. 125 and 126. The form of the embolus is particularly characteristic. Length, 4 mm.; cephalothorax, 2.1 mm.

Type: Male, No. 1463, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 18, 1921, at **Coyote Bay, Concepcion Bay, Lower California**. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z. (male and immature female); same data, numerous specimens, chiefly from bushes, especially of *Calaphanes* and *Maytenus*.

149. *Dendryphantes zygoballoides* Chamberlin, new species

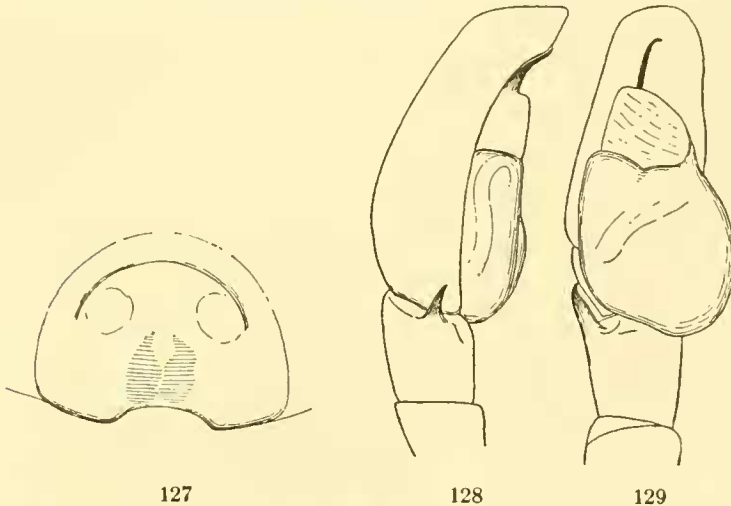


Fig. 127. *Dendryphantes zygoballoides*, epigynum.

Fig. 128. Right palpus of male, ectal view.

Fig. 129. Same, ventral view.

Male: Cephalothorax dark, clothed with iridescent scales, with a broad band of white hairs on each side, continuous across clypeus, and a transverse oblong band of white hairs on head between first and third eye-rows; anterior face of chelicerae clothed above with white hairs and scales. Integument of femora of anterior legs dark, the patella with a dark annulus at distal end, the tibia with one at each end, and the metatarsus and tarsus dark at distal end. The posterior femora lighter, the other joints darkened at ends as on the anterior legs; clothed with white scales and below with sparse white hairs, the other hairs or bristles dark. Abdomen with dorsal region dark, chocolate colored, clothed with iridescent scales; a broad band of white hair over anterior face and along each side and extending into the dorsal dark area as two notches on each side; venter dark.

Pars cephalica high, with posterior eye-row obviously widest, the general appearance *Zygoballus*-like. Chelicerae oblique. First legs long; tibia I bear-

ing beneath three pairs of spines; metatarsus I with two pairs of ventral spines of which one pair is at distal end and the other at middle of joint; tibia II with three pairs of spines beneath, a pair at distal end, and a single spine farther back under posterior border. Palpus, figs. 128 and 129.

Length, 5 mm.; cephalothorax, 2.5 mm.

Female: Coloration as in the male excepting that the femora of the anterior legs are not darkened. Epigynum, fig. 127. Length, 5 mm.; cephalothorax, 2.5 mm.

Type: Male, No. 1464, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 3, 1921, at Palm Cañon, Angel de la Guarda Island, Gulf of California. *Allotype*, female, No. 1465, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 12, 1921, on San Marcos Island. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; San Carlos Bay, July 8; Willard's Point Bay, Tiburon Island, July 3; San Marcos Island, May 12; San Lorenzo Island, May 9; Coronados Island, May 18, E. P. Van Duzee.

150. *Dendryphantes diplacis* Chamberlin, new species

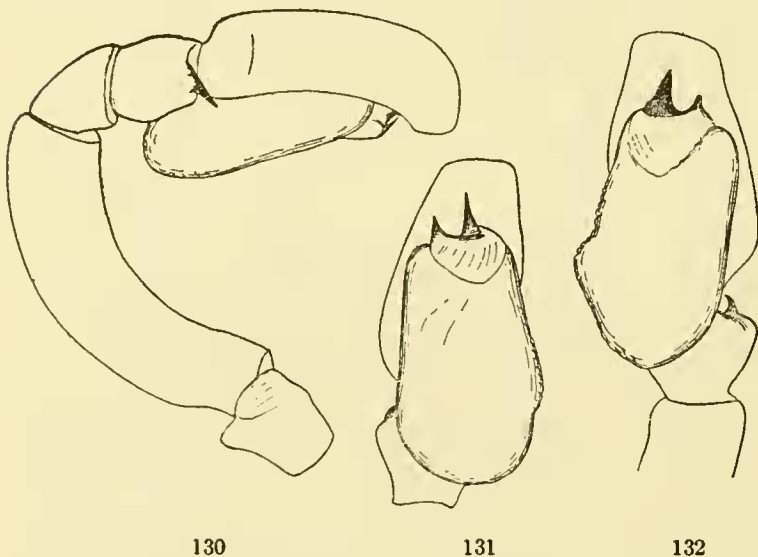


Fig. 130. *Dendryphantes diplacis*, right palpus of male, ectal view (San Diego Island).

Fig. 131. Tarsus of same, ventral view.

Fig. 132. Left palpus, ventral view of a variant specimen from Nogales, Arizona.

Male: General appearance that of *capitatus*. Sides and posterior declivity of carapace clothed with white hair; the dorsum of head in the type rubbed; legs with femora dark, the patellæ and tibiæ with a dark annulus at each end and the metatarsus with an annulus at distal end; abdomen with a white band around anterior end and along sides of dorsum, a dark longitudinal band mesad of it on each side more or less broken into dark spots, the middorsal region unmarked.

Chelicerae moderately large, oblique, the teeth of margins long.

Readily differentiated from other North American species in the details of the palpus, particularly in the presence of a well-developed chitinous process ectad of the base of the embolus (figs. 130 to 132).

Length, 5 mm.; cephalothorax, 2.8 mm.

Type: Male, No. 1049, M. C. Z., collected near **San Diego, California**. *Paratypes*: Mus. Calif. Acad. Sci. and M. C. Z.; Nogales, Arizona, April 4, 1921, E. P. Van Duzee.

151. *Sassacus vanduzeei* Chamberlin, new species



133

Fig. 133. *Sassacus vanduzeei*, epigynum.

Female: Carapace black, clothed with white hair, though the rubbed condition leaves the character of the hair of the ocular region in doubt; legs yellowish, the first femora black, the others more or less dusky over the yellow ground; abdomen dark; a band of white hair around anterior end and a short distance caudad on each side, the white hair elsewhere scattered; iridescent scales present on dorsum.

Tibia I with three ventral spines, two in series under anterior border at distal end and one under posterior border paired with the proximal anterior one; tibia II also with three spines beneath, two in series under posterior border and one under anterior border at distal end. Cephalothorax high, with the anterior part of thoracic division on a level with the head; posterior declivity abrupt and steep. Epigynum, fig. 133.

Length, 4.8 mm.; cephalothorax, 2.1 mm.

Type: Female, No. 1466, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, April 18, 1921, on **San Pedro Martir Island, Gulf of California.**

152. *Pellenes delectus* Peckham

Trans. Wisc. Acad. Sci., 1909, XVI, p. 550, pl. 47, fig. 6; pl. 49, fig. 1.

Locality: Mulegé, May 14, one male and one female taken by E. P. Van Duzee.

This species was previously known from Texas.

153. *Pellenes divaricatus* (Banks)

Habrocestum divaricatum Banks, Proc. Cal. Acad. Sci., 1898, Ser. 3, I, p. 287, pl. 17, fig. 7.

Pellenes divaricatus Peckham Bull. Wisc. Nat. Hist. Soc., 1900, I, p. 196, 203.

Localities: Monserrate Island, June 13, one female; Santa Inez Island, May 13, one female taken by J. C. Chamberlin and one by E. P. Van Duzee on same date.

Previously known from Sierra San Lazaro, Lower California.

154. *Pellenes dolosus* Peckham

Bull. Wisc. Nat. Hist. Soc., 1900, I, p. 225, pl. 1, fig. 20.

Localities: South San Lorenzo Island, June 24, one female; Ensenada, April 7, two females; San Francisquito Bay, May 10, one female.

Previously known from Arizona and southern California.

155. *Pellenes elegans* Peckham

Bull. Wisc. Nat. Hist. Soc., 1900, I, p. 212, pl. 1, fig. 3; Trans. Wisc. Acad. Sci., 1909, XVI, p. 552, pl. 44, fig. 9; pl. 46, fig. 4.

Pellenes birgei Peckham, Bull. Wisc. Nat. Hist. Soc., 1900, I, p. 217, pl. 1, fig. 8.

Localities: San Francisquito Bay, May 10, one male; Agua Verde Bay, May 21, one immature male; Concepcion Bay, June 18, two males; Angeles Bay, June 27, one male, E. P. Van Duzee; San Marcos Island, June 11, five specimens taken by J. C. Chamberlin, and June 19, one by E. P. Van Duzee; San Francisco Island, June 30, two specimens taken by E. P. Van Duzee and six by J. C. Chamberlin; Tortuga Island, June 22, two specimens taken by E. P. Van Duzee, and May 11, one taken by J. C. Chamberlin; Puerto Refugio, Angel de la Guarda Island, June 29, one male.

This conspicuously marked species seems to be the commonest and most widespread species of the genus upon the islands of the Gulf of California. It occurs also in the South-western United States, having been recorded from Kansas, New Mexico, Colorado, Utah, Arizona and California.

156. *Pellenes hirsutus* Peckham

Habrocestum hirsutum Peckham, Trans. Wisc. Acad. Sci., 1888, VII, p. 64, pl. 4, fig. 47.

Pellenes hirsutus Peckham, Bull. Wisc. Nat. Hist. Soc., 1900, I, p. 211.

Localities: Nogales, Arizona, April 4, three, E. P. Van Duzee; Isla Partida, April 22, two males, one by E. P. Van Duzee and one by J. C. Chamberlin.

This western species was previously recorded from Colorado, New Mexico, Utah, California and Oregon. The male from Isla Partida has the bright red clypeus occasionally present in this form.

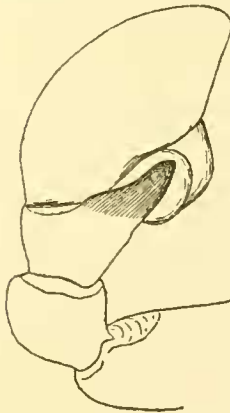
157. *Pellenes tranquillus* Peckham

Bull. Wisc. Nat. Hist. Soc., 1900, I, p. 213, pl. 1, fig. 4.

Locality: Pond Island, July 1, one male.

Previously known only from Arizona.

158. *Pellenes ammophilus* Chamberlin, new species



134



135

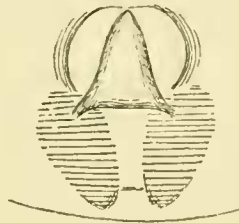
Fig. 134. *Pellenes ammophilus*, right palpus of male, ectal view.

Fig. 135. Same, ventral view.

Male: Integument of carapace black, clothed with grey hair; clypeus white in middle and on each side in a band running from outer side of anterior median eye obliquely outward and downwards and then along margin caudad; integument of legs blackish excepting on tarsi. Abdomen blackish, with several oblique light lines on each side; the hair now mostly rubbed off but apparently mostly grey on dorsum. Tarsus of palpus clothed with white hairs above. First legs with a thick fringe of greyish hair beneath femur, a sparse fringe also below patella and metatarsus; femur of third leg with a swelling at distal end on anterior side, this bearing above a short stout spine and many short setæ; above this swelling a second group of short setæ; patella of third leg flattened on anterior side, a ridge along anterodorsal surface. Tibia I with three pairs of spines beneath, those of the anterior border long and conspicuous, projecting anterodistally; also a single spine above these on anterior surface. Palpus, figs. 134 and 135. Length, 5.5 mm.; cephalothorax, 3 mm.

Type: Male, No. 1467, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 7, 1921, on **Ceralbo Island, Gulf of California**. "Found running on sand along a spit; very agile and hard to catch, jumping from two to eight inches at a bound;" *Paratype*: Male, No. 1061, M. C. Z., collected by E. P. Van Duzee, May 29, 1921, on San Francisco Island.

159. *Pellenes anepsius* Chamberlin, new species



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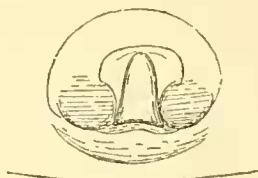
Fig. 136. *Pellenes anepsius*, epigynum.

Female: Carapace and abdomen above densely clothed with brown hairs, with no markings; clypeus white in the middle; legs brown, without markings; venter of abdomen pale, clothed with grey hair.

Tibia I with 3-3 spines beneath, none on anterior surface; tibia II with four ventral spines, a pair at distal end and two in series behind these under caudal border. Epigynum, fig. 136. Length, 5.2 mm.; cephalothorax, 3 mm.

Type: Female, No. 1468, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, May 14, 1921, under bark of an Acacia on bank of a reservoir at **Mulegé, Lower California.**

160. *Pellenes angelus* Chamberlin, new species



137

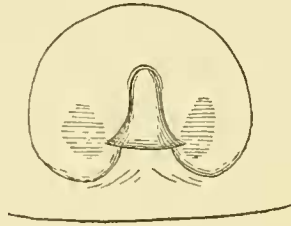
Fig. 137. *Pellenes angelus*, epigynum.

Female: Carapace dark, clothed throughout with grey hair. Clypeus clothed densely with white hair; sternum black. Legs yellowish, the femora darkened on sides at distal end; patellæ and tibiæ tending to be darker at ends, and the metatarsi may be darker at distal end. Abdomen pale beneath; dorsum with a median longitudinal dark stripe which in posterior part has its sides serrate, herring-bone-like; the sides of dorsum with dark areas, densely clothed with grey hair.

Tibia I with four spines beneath, a pair near middle, a single spine on caudal side toward base, and a small one under anterior border at distal end; no spine on anterior surface; tibia II below with three spines, a single small one at distal end on anterior side and two in series under posterior border, one of these at middle and one toward base; a spine on anterior surface above. Epigynum, fig. 137. Length, 4 mm.; cephalothorax, 2.1 mm.

Type: Female, No. 1469, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 29, 1921, at **Puerto Refugio, Angel de la Guarda Island, Gulf of California.** *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; same place as type, May 1, beaten from bushes; San Esteban Island, April 20, 1921.

Specimens from San Esteban Island show slight color differences.

161. *Pellenes corticolens* Chamberlin, new species

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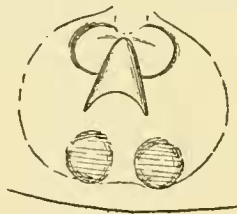
Fig. 138. *Pellenes corticolens*, epigynum.

Female: Integument of carapace black, clothed throughout with grey hair, with no distinct bands or markings. Clypeus clothed with white hair; sternum black, with long white hairs; chelicerae black; integument of legs fulvous, annulate with black; clothed with grey hair which in life masks the annuli; abdomen also nearly uniformly clothed above and on sides with grey hair, that of the venter brighter.

Tibia I with three pairs of spines beneath; tibia II with four spines beneath, three under posterior border and one at distal end under anterior border; none on anterior face. Epigynum, fig. 138. Length, 5 mm.; cephalothorax, 2.5 mm.

Type: Female, No. 1470, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, April 29, 1921, at **San Luis Gonzaga Bay, Lower California.**

In general coloration similar to *P. polius* new species, but it is a smaller species differing in form of epigynum and in the spining of the legs.

162. *Pellenes polius* Chamberlin, new species

139

Fig. 139. *Pellenes polius*, epigynum.

Female: Integument of cephalothorax and abdomen dark, clothed with grey hair and wholly without definite bands or other markings, the venter somewhat brighter colored than the dorsum; legs light, clothed with grey or whitish hairs like those of body; clypeus densely clothed with bright white hair, the marginal ones long; long white hair on chelicerae.

Tibia I with three pairs of spines beneath; tibia II with five spines beneath, three under posterior border and two under anterior border paired with the median and distal ones of posterior series; a spine on anterior face.

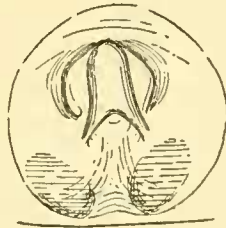
Epigynum, fig. 139. Length, 7.2 mm.; cephalothorax, 3.8 mm.

Type: Female, No. 1471, Mus. Calif. Acad. Sci., collected by J. C. Chamberlin, June 12, 1921, on **Santa Catalina Island, Gulf of California.**

The single specimen was taken "on the rocks at beach a foot or so above the water. When captured it was feeding on a small fly."

This species in structure resembles *P. pyrithrix* but is at once distinguishable in lacking the reddish or copper-colored hair on the abdomen.

163. *Pellenes pyrithrix* Chamberlin, new species



140

Fig. 140. *Pellenes pyrithrix*, epigynum.

Female: Integument of carapace black, clothed above with somewhat iridescent scales of a greyish brown cast; white hairs in a band along lower part of sides and across clypeus, some white scales also on upper part of anterior face of chelicerae; dorsum of abdomen clothed with red hair, white hair over anterior surface, sides and venter; legs brown, clothed with sparse white scales and dark hairs.

Ventral spines of tibia I three pairs; none on anterior surface; tibia II with a pair of ventral spines at distal end, two in series behind the posterior of these two; a spine on anterior face above. Epigynum, fig. 140.

Length, 8 mm.; cephalothorax, 4 mm.

Type: Female, No. 1472, Mus. Calif. Acad. Sci., collected by E. P. Van Duzee, July 7, 1921, at **San Pedro Bay, Sonora**, swept from palo verde. *Paratypes* in Mus. Calif. Acad. Sci. and M. C. Z.; San Carlos Bay, July 8, 1921, E. P. Van Duzee.